Clinical Lecture
ON
MITRAL STENOSIS.

Delivered at the Brompton Hospital for Diseases of the Chest,

BY T. D. ACLAND, M.D., F.R.C.P.

(*Concluded from p. 105.*)

SINCE the time when the diagnosis of mitral constriction became possible, various observers have been active in denying the existence of a direct murmur as distinguished from a regurgitant. Of these the foremost was Dr. Barclay, and he has lately been followed by MacVail, Dickinson, Turner, and others, who have all endeavoured to prove that this so-called direct murmur is, in fact, regurgitant. The main arguments on which this view rests are:—

I. That inasmuch as the pulmonary veins have no valves and no means of closing the outlet backwards, the left auricle could exert but little power in driving the blood forwards from left auricle to ventricle, and that therefore it is scarcely possible that one of the loudest and roughest murmurs heard in cardiac disease could be produced by the contraction of the auricle.[1] To this it may be replied (*a*) that the loudness of a murmur does not by any means bear a constant ratio to the force producing it, but depends on the method of its production and the adaptibility of the instrument to produce particular forms of vibration. This requires little illustration: a familiar example will suffice. Turn an ordinary spring water-tap full on, nothing is heard but the rush of water through an orifice; turn it on so that a minute stream only is allowed to pass, vibrations are often produced sufficient to shake the house. Here the same force precisely is at play; the conditions for producing sonorous vibrations only are altered. A further illustration of this point may be drawn from a very remarkable case of aortic regurgitation, due, as I am inclined to think, originally to the rupture of a valve, which has lately been under my care. Aortic regurgitant murmurs are often softer than a whispered "who"; but in this case B♭ was sounded so loudly and clearly that the patient himself could hear it. Dr. Fowler has recently shown me a similar case in which the murmur could be heard more than three feet from the patient. In both cases there is a well-marked thrill perceptible over the base of the heart. The objection, therefore, raised on this point cannot be admitted; and it may be granted that the mere loudness of the murmur is no argument against its being caused by a feeble force. (*b*) The auricle is spoken of as though, even when backed by competent pulmonary valves and the tension of the whole pulmonary circulation, it were a feeble thing. It must, however, be remembered that even if the murmur were *regurgitant*, the pressure backwards which has to be met before the aortic valves will open must be equal to the pressure in the systemic circulation. But an attempt will be made to prove that the force producing the presystolic murmur is not a feeble one, and that all the conditions are present which would tend to produce a loud, rough, "churning" murmur, such as that which is so often associated with mitral stenosis. The force available for producing a direct murmur is not, as stated by Barclay, only that of a contracting auricle; since a powerful factor in the mechanism of circulation is no doubt the expansile force of the ventricles. It is my belief that the whole secret of the characteristics of the murmur in mitral stenosis depends upon this force, which is, indeed, very considerable. It has been estimated by Goltz and Gaule[2] in the dog at 52 mm. of mercury when the thorax is closed, and 23 mm. when opened. The significance of this is enormously increased when it is considered that the positive pressure of the right ventricle is only 60 mm, so that, in fact, the suction power of the left ventricle, supposing the entrance to it is obstructed, is almost equal to the contractile power of the right ventricle.[3]

"When the entrance is obstructed" is said advisedly, for the above measurements are taken from the healthy heart, and under conditions where the potential vacuum is immediately occupied by the in-pouring blood; and therefore, except in theory, it does not exist. A similar view of the mechanism of the early and mid-diastolic murmurs is given by H. Rolleston,[4] who summarises his conclusions by saying that while the presystolic is due to a *vis a tergo* of the auricular systole, the early and mid-distolic murmurs result from the *vis a fronte* of the expanding left ventricle and its suction-pump action. As far as it goes this is quite in accord with the opinions expressed above; but it does not go far enough, for early and mid-diastolic murmurs are not diagnostic of mitral stenosis—in fact, are often present when the orifice is even larger than normal. And it should be added that cases are far from infrequent in which the exact rhythm of the murmur depends on the position of the patient. For instance, in K. V—— (Brompton Hospital, 4231), the rhythm while she was standing up was—diastolic murmur, pause, presystolic murmur (Fig. 3*a*); when lying down,

FIG. 3*a*.

characteristic rolling presystolic murmur (Fig. 3*b*) alone wa

FIG. 3*b*.

audible. So that, although the suction force of the ventricle is in all probability concerned in the production of the murmurs, the murmurs are not themselves characteristic of mitral stenosis. When there is an obstructed mitral orifice the pressure in the pulmonary circulation and in the left auricle is high; consequently at the commencement of ventricular diastole there is sufficient blood under high tension, aided by the suction power of the ventricle, to force its way through the obstructed orifice and to fill the distending ventricle, until towards the end of diastole. At this point the auricular systole comes into play, the ventricle tends to expand more rapidly than it can be filled, the auricle contracts, and all the conditions necessary for the production of the loud rough murmur are brought into existence. It is recognised that in the mechanism of its production the presystolic murmur differs from all others. The differences seem to be as follows. Not only is the blood flowing through a constricted orifice, but it is flowing into a cavity which has a constant tendency to expand more rapidly than it can be filled. This explanation of the mechanism, which is not inconsistent with any physical or physiological fact, has been overlooked entirely by Dr. Dickinson, who says "that the current from auricle to ventricle is seldom, if ever, strong enough to give a thrill along with a direct mitral murmur; if a thrill accompanies a mitral murmur, I should regard this as proof that the murmur is due to the action of the ventricle, and is truly systolic and regurgitant."[5]

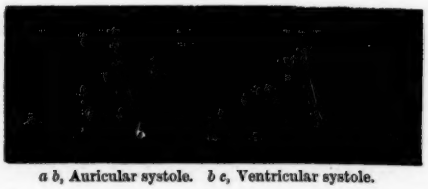
Some hæmic murmurs, according to the well-known theory, are produced under conditions closely resembling these; only in such cases, the blood is deficient in quantity, and therefore cannot fill up the cavity into which it flows, in consequence of which fluid veins are produced which in their turn give rise to sonorous vibrations. With regard to these undulations, which occur, as a matter of common observation, most forcibly when a fluid is rushing through a narrow orifice into an expanding cavity (cf. filling an ordinary elastic syringe), it should be noted that a thrill very often accompanies the murmurs of aortic regurgitation—i.e., when the blood is flowing back into a cavity

[1] Barclay, THE LANCET, vol. i. 1872, p. 283.
[2] H. Rolleston: The Endocardial Pressure Curve. Journal of Physiology, vol. viii., No. 5, p. 261.
[3] Michael Foster's Text-book of Physiology, fourth edition, p. 151.
[4] The Causation of Mitral Diastolic Murmurs, by Humphrey Rolleston, M.B., St. Bartholomew's Hospital Reports, vol. xxiv., p. 197.
[5] Dr. W. H. Dickinson, THE LANCET, vol. ii. 1887, p. 660.

in which, during diastole, there is a constant tendency to diminution of pressure. Again, in thoracic aneurysms, there is often a thrill, and probably from the same cause—viz., the blood rushing under the high pressure of an hypertrophied left heart into a large sac with comparatively slack walls, which give opportunity for the development of large vibrations, comparable in their method of production to the *bruit de diable* of Bouillaud. These observations all tally with the accepted fact of the extreme variability of the presystolic murmur, and of its frequent disappearance when the ventricle is feeble; since, if the explanation here given of the production of the murmur is correct, active dilatation of the ventricle is necessary to allow of sufficient amplitude for the vibrations generated at the constricted orifice to produce audible sounds. And if the ventricle expand feebly or less rapidly than the cavity can be filled, the sounds generated by the vibrations produced at the point of constriction are damped, even to disappearing.

The abrupt first sound, which even without the murmur is sometimes diagnostic, often suggestive of mitral stenosis, is closely allied to the same series of phenomena. It is now generally admitted that the first sound of the heart is due to two distinct causes—viz., the ventricular contraction, and the closure of the auriculo-ventricular valves. If this be so, it is to be expected that any cause which would enable the ventricular wall to commence its contraction with more than ordinary rapidity would (supposing the closure of the valves were entirely out of the question) produce a sharper and more rapid sound than is usually heard. Such conditions are found in mitral stenosis; for when there is an obstructed orifice the dilating ventricle tends to expand more rapidly than it can be filled; the intra-ventricular tension is therefore proportionately diminished. It is, however, capable of proof that under increased resistance a muscle contracts more slowly, and, inversely, that under lessened resistance it contracts more rapidly, than under normal conditions. It has been shown that in mitral stenosis agencies are at work which tend to diminish intra-ventricular pressure; it follows therefore as a natural result that, apart from other considerations, conditions exist in the heart for producing a short, sharp first sound. That the systolic snap is in part thus produced has been suggested by various observers—Fagge, Mahomed, and Broadbent. It may be concisely stated in the words of the latter.[6] "The muscular walls at the first moment of contraction meet with less resistance, and, acting more rapidly, are suddenly brought up and made tense at the moment when resistance is encountered, so producing the sharp first sound....." That this is actually one of the causes of the first sound is in some degree borne out by the fact that in hypertrophy of the left ventricle from aortic regurgitation the first sound becomes long and booming; in dilatation it becomes short and sharp; and in palpitation the brevity of the diastolic interval does not give the ventricle time to fill, and a similar result is effected. With regard to the sharpness of the first sound being in part due to the closure of the auriculo-ventricular valves, it is admitted that the tension in the pulmonary vessels is greatly increased when there is obstruction at the mitral orifice; the tricuspid valves tend therefore to close more sharply than in health. It is not urged that it is impossible for a sharp sound to be produced by the closure of the rigid funnel into which the orifice is often transformed, for in many cases it may be proved after death that the valves have come together with sufficient accuracy to prevent regurgitation, from the fact that their thickened edges are often facetted, and that water injected into the ventricle cannot make its escape. When the valves can come together, the tendency would be entirely for them to close more sharply; since, instead of the curtains floating out from the ventricular walls with plenty of blood behind them to bring them together at the moment of the commencement of systole, they stand out hard and rigid, and, coming together with a shock which is proportionate to the sharpness of ventricular contraction, cause a loud snap, such as may often be produced by suddenly turning off a water tap. If the rapidity of ventricular contraction in uncomplicated mitral stenosis *is* increased, it should be easy to show by the cardiograph that when the first sound is sharp and loud the ventricular contraction is short, and when the first sound is long and booming the ventricular contraction is lengthened. The annexed cardiograms, most kindly taken for me by Mr. C. J. Martin, to whose kind help I am much indebted, explain themselves. The one (Fig. 4) is from E. M——, suffering from mitral

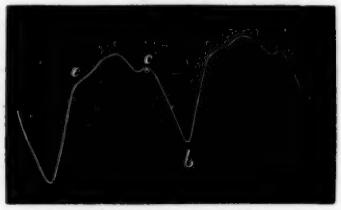
FIG. 4.



a b, Auricular systole. *b c*, Ventricular systole.

stenosis; the other (Fig. 5) from J. W——, suffering from

FIG. 5.



e, End of ventricular systole.

aortic incompetence. These cardiograms will be spoken of more at length further on.

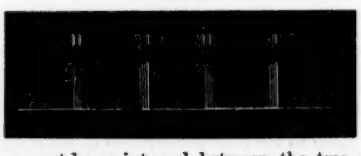
The various phases which are possible in a case of mitral stenosis make it probable that the view I have expressed as to the part taken by the diastole of the ventricle in the production of the murmur is correct. When the obstruction is slight, the murmur occurs only at the end of diastole and during auricular systole, and the snap is not so loud as in the second phase, where the obstruction is greater, and the tendency to diminished intra-ventricular tension therefore increased. In the last phase the nutrition of the ventricle is much impaired; its suction power is therefore greatly lessened. It is under such circumstances that the murmur is sometimes entirely absent, and the snap very feeble.

The extreme variability of the murmur is well known; for when the action of the heart is excited, or the ventricular beat becomes stronger under the influence of treatment, a murmur appears which was inaudible before; and conversely, when from any cause the heart's action becomes feeble, a murmur which had previously been clearly audible disappears. Thus it would seem that the presence or absence of the murmur is directly dependent on the power of the ventricle; and from the facts adduced it would seem probable that it is the suction power of the ventricle, and not its contraction, that gives the peculiar character to the murmur in mitral stenosis.

Thus far on physiological grounds an attempt has been made to prove that there are ample reasons for believing that the murmur in question is produced, at least in a large measure, by the suction action of the ventricle, and that, if this is so, a satisfactory explanation can be given of its roughness, of the thrill, and of the sudden termination of the first sound.

II. The second argument which is brought by those who deny the existence of a presystolic murmur to show the impossibility of this murmur being an obstructive one is, that were it so, when a regurgitant murmur is present as

FIG. 6.



well, there must be an interval between the two, and that if there is no interval between them to mark the change of direction of blood-flow it is impossible that any such change can be taking place. To this the reply is simple, for in the first place there often is an interval between the

[6] Dr. W. H. Broadbent, International Journal of the Medical Sciences, 1886, p. 68.

two murmurs, as in the case of J. F——, in the Brompton Hospital, Victoria ward (Fig. 6), where there existed mitral stenosis and incompetence, and a very loud rolling presystolic murmur, followed after a distinct interval by a soft, high-pitched, systolic whiff.

Again, if it be true that the sharp snap takes place in consequence of the contraction of the ventricle on the blood, which does not yet entirely fill the ventricular cavity, as well as to closure of valves, it is not remarkable that the direct (presystolic) murmur should only be suddenly terminated by the rise of intra-ventricular pressure closing the valves and putting an end to the flow of blood from the auricle. That this is a reasonable view may be allowed from the fact, which is acknowledged by all, that there is a tendency for more blood to collect on the right side of the heart than can in the given time gain entrance to the left ventricle. There is also a tendency towards the incomplete filling of the left ventricle, which does not seem to be due to the fact that there is a want of *vis a tergo* to send the blood forward, for the auricle is often much hypertrophied, but that the time requisite for filling the ventricle is too short, and is terminated by some superior force which closes the aurifice entirely, and puts an end to the auriculo-systolic phase of the heart's cycle. This force, it seems probable, is the ventricular contraction.

Dr. Dickinson, and those who agree with him, maintain that the sharp sound which terminates the murmur is due to the fact that "the mitral orifice is constricted; that the valve, nevertheless, allows of regurgitation during the first part of the systole, while it is able to close as the systole proceeds, so as to stop regurgitation towards the end of that movement. The mitral valves are often converted into a mere funnel of stiff fibrous tissue; but with the advancing contraction of the ventricle they come together, late, rather than never, and with their closure make the short sharp sound which replaces the normal first sound. The essential features of the so-called presystolic murmur are therefore mitral regurgitation followed by mitral closure. In support of the view I have presented" (Dr. Dickinson's own words are being quoted), "I might adduce much evidence to the effect that, when the so-called presystolic murmur has been heard during life, after death it has been found, first, that the mitral orifice was contracted, and, secondly, that the valve was capable of closure."[7] This latter statement would meet with general acceptance, with the proviso only that, if the valves had *not* been capable of closure, a systolic as well as a presystolic murmur would probably have been heard.

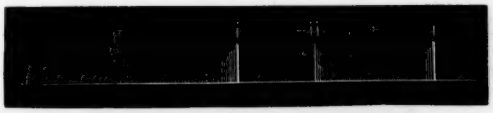
These arguments, however, that the presystolic murmur is really systolic, may be rebutted on two grounds—the physiological and the clinical. Taking the latter first, it is difficult to understand how the murmur in dispute can be systolic if it be true that the snap is caused by the closure of the valves in the middle of systole; because, if this were the case, there should be *no* snap of the valves when there is regurgitation as well as obstruction. But this snap is often clearly present, as in the case of J. S—— (Brompton Hospital, Dr. Roberts), in which there are mitral stenosis and incompetence, and in which the murmur varies very much with position, but is generally a long rolling presystolic murmur, terminated by a snap and followed by a long systolic whiff; and in the case of J. F——, already referred to (see Fig. 6). Neither should the character of the murmur alter, as undoubtedly it does, from a rough purring murmur to a soft whiff, with a well-marked interval between, but should be of the same character all through; whereas, if the explanation of the causation of the murmur and of the snap given above is true, all the physical signs follow almost as a matter of course.

Again, it is admitted that in mitral stenosis the blood-supply to the left ventricle and to the systemic circulation tends to be deficient and the arterial tension inclines to be diminished; but if really the murmur of mitral obstruction is regurgitant, the length of the ventricular systole would be increased, because under ordinary circumstances the carotid pulse immediately follows the first sound; but in cases of mitral obstruction the long rolling murmur precedes the termination of the apex beat and the carotid impulse, and its length must therefore be added to the time usually occupied by the ventricular systole. The carotid pulse is evidence that the contracting ventricle has overcome the inertia of the systemic circulation. It is reasonable therefore to suppose that when the ventricle is acting at a disadvantage—as, for instance, when there is much regurgitation through the mitral orifice,—the commencement of systole would precede the carotid pulse by a longer interval than when the valves are competent. In the former case part of the force of the contracting ventricle must be expended in driving the blood backwards, and if this be the case, the greater the narrowing of the mitral orifice, and the less therefore the chance of regurgitation, the less would be the interval between the commencement of systole and the carotid impulse. Let it be granted, however, for the moment that the "presystolic" murmur is caused by regurgitation, and that the snap is due to the closure of the valves after the commencement of systole; the carotid pulse, as a matter of observation, follows the snap, and is therefore delayed long after the commencement of ventricular systole, and takes place only when the margins of the damaged orifice come together. On the other hand, in a case of simple regurgitation, the carotid impulse follows immediately on the commencement of the systole, and although regurgitation is going on all through the systolic period, and the valves do not ever completely close the orifice, the carotid pulse is not delayed appreciably. This fact alone is a powerful argument both against the presystolic murmur being in reality regurgitant, and against the "snap" being other than the commencement of systole.

Again, it is acknowledged that the tension in the right heart is increased, and that the tricuspid valves have an extra strain thrown on them which at times leads to regurgitation. If it were true that the snap was due to the closure of the valves at a period after the true commencement of systole, equal to the length of the presystolic murmur, it ought to follow that the sharp closure of the tricuspid valves should take place at the commencement of the murmur, when, according to this view, ventricular systole begins; and that the closure of the mitral orifice, being delayed by the stiffness of the valves, should follow it, but separated by the length of the murmur. There is no evidence that this does actually occur, but it seems that the right and left ventricular systole are synchronous. From this it follows: (*a*) that the snap is at the commencement of systole, as on other and entirely different grounds has been shown to be probable; (*b*) that the murmur which precedes it is "presystolic."

Supposing, again, the murmur of mitral stenosis to be regurgitant, it follows that, unless the relations of the normal cardiac cycle are very much disturbed, the diastolic interval would be just so much shortened as the systole is lengthened, which put into plain English comes to this: the contracting ventricle, having less to do, takes longer to do it; and the auricle, aided by the expanding ventricle, having more to do and greater difficulties (in the shape of obstruction) to overcome, takes a shorter time, which seems wellnigh incredible. The argument may be reduced *ad absurdum*, for practically the whole diastolic interval is frequently occupied by the murmur due to the obstructed orifice. As may be heard in the case of V. C—— (Fig. 7)

FIG. 7.



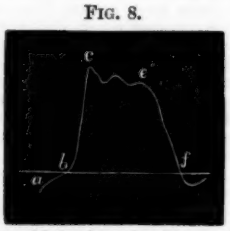
(Brompton Hospital, Dr. Roberts), where there is a diastolic ending in a long rolling presystolic murmur. In such cases it follows either that the ventricle is filled during its systole, which is impossible, or that in spite of the obstruction the auricle can fill the ventricle instantaneously at the commencement of the diastolic period, which is contrary to all that is known of cardiac pathology or physiology.

It has been frequently shown by cardiographic tracings taken from cases of mitral stenosis that the diastolic period, instead of being reduced to a minimum and the systole prolonged, the contrary is the case, and that the diastolic period is more prolonged than in ordinary health. The extent to which cardiographic tracings can be used in evidence of the true rhythm of the murmur in mitral obstruction does not as yet make it possible to record with certainty the exact period during the cardiac cycle at which a murmur commences and ends; although recently an elaborate attempt has been made to do so by Dr. Byrom

[7] Dr. W. H. Dickinson, THE LANCET, loc. cit.

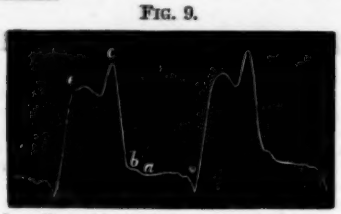
Bramwell and Dr. Milne Murray.[8] The experiment with a piece of cork and a pin made by Dr. Dickinson may be disregarded, owing to the fact that Professors Marey, Galabin, and Landois, all skilled observers, agree that the auricular contraction is represented in the cardiographic tracing; and nearly all cardiograms from cases of mitral stenosis show a rise before the commencement of ventricular systole, as may be seen on the cardiograms (Figs. 4, 10). Rolleston's objection to this, based on endo-ventricular tracings, is not of much weight, since obviously endocardial tracings are not only taken under entirely abnormal conditions, but they are not the tracings of the apical beat, which is of necessity that from which the cardiogram must be taken for clinical purposes. Marey, unfortunately, in his classical work, "La Circulation du Sang," 1881, had not appreciated the murmur which is here designated presystolic, due to the narrowing of the mitral orifice, and he calls the murmur of mitral stenosis "diastolic," and says, in conclusion, it is not known what modifications narrowing of the mitral orifice is able to impress on the cardiac pulsation. Galabin[9] sums up the result of his observations by saying that it appears "that the evidence of the cardiograph is in favour of the view that two totally distinct murmurs may be caused by mitral contraction: first, the auricular systolic bruit, which may either run up to the first sound or be separated from it by a short interval; and, secondly, a diastolic bruit due to venous flow through the roughened and narrowed orifice, which in rare cases may be blowing in character and separated from the succeeding systole by a long pause; and that, thirdly, these two may be merged together into a compound murmur, somewhat rough from its commencement, but much intensified in loudness and harshness towards its conclusion." He further adds, as the final sentence of his paper, that he has "not yet met with any cardiograms which seemed at all to indicate that the auricular contraction had been transferred in rhythm to the preceding ventricular systole, and so formed the termination instead of the commencement of each revolution of the heart," as would, in fact, be necessary, supposing the murmur to occupy the whole diastolic period, and to be caused by auricular contraction alone. Dr. Galabin expressed his belief that almost all cardiograms of mitral stenosis absolutely contradict the theory that the murmur and thrill occur during ventricular systole. Marey has shown, by

FIG. 8.



Normal cardiographic tracing, after Marey. (Fredericq: Trace Cardiographique, 1887, p. 84.) *a b*, Auricular systole. *b*, Commencement of ventricular systole. *c e*, Duration of ventricular systole. *f*, Closure of the aortic valves. The letters given in all the tracings have the same significance.

FIG. 9.



Normal cardiographic tracing from F. O. P., labourer. (Brompton Hospital.) Powerfully acting heart. No evidence of disease.

simultaneous tracings, that normal auricular systole ceases before that of the ventricle commences; and, in looking at the healthy cardiographic tracing, it is seen that the auricular elevation (Figs. 8 and 9, *a b*) does not lead gradually up to the main ventricular elevation, but is separated from the main up-stroke by a slight fall. Marey has shown that the actual commencement of the apex beat almost exactly coincides with the commencement of ventricular systole, and, if the muscular contraction has anything to do with the production of the sound, is synchronous with the commencement of the first sound of the heart.

In cardiographic tracings from cases of mitral stenosis there is seen a long irregular elevation, which is succeeded by an up-stroke quite sudden and distinct from the first part of the curve, and not shorter than might be expected from a small ventricle[10] (Figs. 4, 10), and thus the utmost probability is given to the view that the murmur of mitral stenosis occurs during ventricular diastole and auricular systole. It is clearly shown, apart from all theories, that the phase of elevation due to ventricular contraction is not lengthened (Figs. 4, 10), while the diastolic interval (Fig. 4) is in many cases remarkably so.

FIG. 10.

Cardiogram, from a case of mitral stenosis. (Galabin, Guy's Hospital Reports, 1875, p. 314, Plate iii., Fig. 19.) The fall after *b* shows the interval between a presystolic murmur which occurred before *b* and a systolic murmur which followed the apex beat. "In this case murmur and thrill extended over the whole cardiac revolution except the short interval just preceding the systolic bruit."

These facts are entirely in accordance with the views here expressed, for which little claim to originality is made, but which have in some points been amplified—viz.: (*a*) that the murmur of mitral stenosis occurs during the diastolic period; (*b*) that it is not always or solely auriculo-systolic; (*c*) that its essential characteristics are due to the fact that the murmur is produced largely by the suction of the ventricle and the passage of blood over a rough surface into an expanding cavity; (*d*) that the snap is not due to the sharp closure of the thickened valves during the systolic period; (*e*) that it is due to the increased rapidity of ventricular contraction, coupled with increased sharpness of closure on the part of the tricuspid, and at times also of the mitral valves.

ABSTRACT OF

Three Lectures

ON

TUBERCULOSIS IN SOME OF ITS SURGICAL ASPECTS.

Delivered at the Royal College of Surgeons,

BY HOWARD MARSH, F.R.C.S.,

HUNTERIAN PROFESSOR OF SURGERY AND PATHOLOGY, ROYAL COLLEGE OF SURGEONS; ASSISTANT SURGEON AND JOINT LECTURER ON SURGERY, ST. BARTHOLOMEW'S HOSPITAL.

LECTURE I.

LITTLE was known of the true nature of tuberculosis until Koch, in 1882, announced his discovery of the bacillus tuberculosis. Since this date Koch's investigations have been confirmed by numerous test experiments which have been performed. But, great as this discovery was, it carried with it no final result. It remained to gain a knowledge of the life history of the bacillus, to study its behaviour in the different tissues, and to ascertain how its development might be prevented and its progress arrested. Upon these questions much labour has been expended, and numerous facts of the highest importance have been

[8] Method of recording the exact relation of Cardiac Sounds and Murmurs. British Medical Journal, vol. i. 1888, p. 10.

[9] Guy's Hospital Reports, 1875, p. 309.

[10] Galabin, loc. cit.

ascertained in regard to the morbid anatomy of the affected tissues, the development of the bacillus under cultivation, the methods by which infection may occur or be artificially produced, the liability to general infection from local sources, and the effect of inoculation with the bacillus, of different species of the lower animals. In these directions the knowledge obtained is sufficient to form a sound basis for reviewing tuberculosis from a clinical point of view. It is to this branch of the inquiry—which, however, I must necessarily limit to a consideration of the disease as it is met with in surgery—that I would direct attention. I have chosen this subject because the treatment of tubercular disease of the large joints is still an open question. And it is one which can be settled only by full discussion and the analysis of a large number of clinical cases. The question, indeed, is one which—though it may be advanced—cannot be settled by the application of data drawn from the biological laboratory. The only safe guide must consist in facts which are the direct outcome of clinical observation; and whenever clinical facts are found in conflict with inferences drawn from microscopic anatomy or experiments on the lower animals, these clinical facts must carry the day. But although the bacillus is the essential cause of tuberculosis, the element of fitness of soil is highly important. The chief facts respecting fitness of soil may be studied in the exanthemata—e.g., scarlet fever. 1. Here an appropriate soil is originally present in the great majority of individuals, so that infection follows exposure; yet some possess a complete immunity, while others who have long escaped are at last attacked. 2. Liability is usually exhausted by a single attack. In other cases, however, a second or even a third attack occurs, either because the material constituting fitness was not exhausted by the first attack, or because it has subsequently been reproduced. This renewal of liability is well seen in the return of liability to small-pox, which occurs some years after vaccination. 3. The immunity secured by an attack of scarlet fever refers only to that particular disease. To the other exanthemata the individual is as liable as before. Indeed, there is nothing more remarkable in pathology than the fact that scarlet fever, measles, small-pox, &c., as they severally follow each other, produce some change in the individual which confers immunity from each disease in turn, so that, without any other appreciable alteration, the individual undergoes a series of five or six changes in respect to fitness of soil each one of which renders him proof against a highly infectious disease.

This brief review of the subject will remind us that the question of fitness of soil, or, in other words, of individual liability, is very obscure. We see influences at work which are at the same time powerful and subtle. But what their exact nature is, on what elements they act, or in what the changes which they effect consists, we are unable to say. It is clear, therefore, that any views we adopt must be arrived at with caution, and only after evidence has been fully examined. Now, as to a fitting soil for tuberculosis, certain conditions are well known to promote it. But these must be carefully estimated.

1. *Inheritance.* This may be very powerful. Thus of the four children descended from a father and mother who both died of phthisis, one died of caries of the spine, and the remaining three of hip disease. Yet the effect of inheritance on tuberculosis is often much over-stated. With adequate treatment recovery so frequently occurs, in spite of strong family history, that the fact that a patient comes of a highly tubercular stock need not prevent our anticipating a perfectly sound recovery. Thus a child, several of whose relatives were phthisical, and whose brother had died of hip disease, herself developed disease of the hip. Yet, treated at once, she recovered with only a slight limp, due to muscular wasting, the joint being freely movable. In another case, a girl, whose brother had died of caries of the spine, whose mother died of phthisis, and of whose family several other members were tuberculous, was attacked with spinal caries. She was laid up for two years, and perfectly recovered, is now married, has three children, and is in good health.

2. *Defective hygienic surroundings* promote tuberculosis. Happily, however, the converse is true: that many cases make a perfect recovery from distinctly marked tubercular disease, where favourable conditions are secured—as, e.g., when a patient moves from close quarters in a town into a fresh, dry air, or takes a long sea voyage.

3. The influence of *age* on tuberculosis deserves careful attention. The facts to be noted are: (*a*) Surgical tuberculosis—diseases of the joints, spine, cancellous bone, and lymphatic glands—begins, in the great majority of cases, between the ages of three and nine. After this period, although these affections undoubtedly occur, they become more and more rare as age advances. (*b*) Experience clearly shows that, as a very general rule, the active period of these affections is limited in duration; in other words, *transitory.* It extends, broadly speaking, over from two or three to five or six years, and lies somewhere between the ages of three and nine. It is during this period that surgical tuberculosis most frequently sets in, and shows a strong tendency to advance; but when this time has elapsed there are numerous cases in which no further outbreak occurs, and and in which sound repair takes place and no relapse is observed. These conclusions are illustrated by such cases as the following. A boy aged three developed subacute tuberculous inflammation of the knee. For the next three years the joint was mainly kept at rest, but he sometimes walked on it. The disease slowly advanced. He then came under my notice, and the joint was enclosed in leather splints and complete rest was maintained. For two years the joint slowly improved, but there were relapses. He also had enlargement of the cervical glands. This was at times considerable, but would then subside and subsequently return. He had, also, disease of the left elbow. For this leather splints were used, and the joint recovered with free movement in six months. When he was nine, and when the knee had been diseased for six years, the joint improved remarkably. It became uniformly cool, all swelling subsided, and perfectly free movement was ultimately regained. It seemed evident that in this boy the tubercular period lasted about five years. For the past four years he has been in excellent health; the joint is fully movable and free from any sign of relapse. A boy, whose father had hip disease in early life, had inflammation of the left hip when he was five. A year later, when I first saw him, the symptoms were flexion, adduction, stiffness, and brawny swelling. At first weight extension in the line of the limb was used, later a Thomas's splint, and then he had crutches and a high boot on the sound side. The joint slowly improved, but between the ages of six and eight the cervical glands were several times enlarged, and many of them suppurated. At the end of this time the glands had recovered and the hip affection had subsided. He is now sixteen, he has had no relapse, the joint is freely movable, and no trace of lameness remains. This experience of the transitory nature of tuberculosis is certainly not novel. Everyone has seen cases in which, after long-continued and destructive disease of the spine or a large joint, the tuberculous process has ceased and the patients have recovered, and remained for years afterwards in perfect health. An important point in regard to age in tuberculosis is that, while surgical tuberculosis is most common between three and nine, tubercular phthisis is most common at a different period—i.e., between fifteen and twenty-five. So that these two forms are separated from each other by an interval of between five and fifteen years. Indeed, it is remarkable how seldom the two are met with together. At the Alexandra Hospital, with seventy hip cases always under observation, phthisis is very rarely met with; while, on the other hand, Dr. Douglas Powell tells me that among the patients with phthisis at the Brompton Hospital tuberculosis of the spine and joints is scarcely ever seen.

4. Another influence promoting the growth of the bacillus tuberculosis is *inflammatory action.* This is seen when phthisis follows catarrh of the pulmonary mucous membrane, when tubercular disease develops after gonorrhœal epididymitis, and when joint or spinal disease ensues after slight injuries. It is clear, also, that the tuberculous process advances while inflammatory action is in progress, and recedes when inflammation is arrested. This is seen every day in cases of tuberculous disease of the joints and the spine.

Thus the various influences I have mentioned have an important bearing on the course of tuberculosis. We see that the bacillus is dependent for its vitality and maintenance on conditions which are either in their nature transitory or which can be counteracted or removed, and that when these conditions are withdrawn the bacillus perishes and the tuberculous process comes to an end. This point reached, tubercle becomes a mere *corpus mortuum*, and is either absorbed or gives rise, as any other "sequestrum" might, to an abscess, with the evacuation of which

it is swept clean away, or is got rid of more gradually by continued suppuration, a process often to be observed in lymphatic glands. These views, so contrary to the opinions which some observers entertain, may be illustrated by one or two typical cases. The first is that of a girl of tuberculous family, whose father died, aged thirty, of phthisis accelerated by intemperance. She had hip disease when she was four. She was treated by weight extension for two years, and was then supplied with crutches and a high boot. At the age of eight an abscess suddenly formed under the tensor fasciæ femoris. Two ounces of pus were removed with the aspirator. The abscess never refilled. The patient, now twenty, has had no relapse, is constantly on the limb, and walks with scarcely a limp. In this case the tuberculous process ceased under rest; the tubercle was, no doubt, in part absorbed, and the remainder was swept away in the abscess. In another case, a girl aged seven had tuberculous disease of both knees. Both joints suppurated for several months, and then the sinuses closed. She recovered, with perfectly free movement. Here the necrotic tubercle was gradually removed by the suppurating process. This girl has been well for eight years, and walks and runs without a trace of lameness. But some cases show that, even when the conditions are highly favourable to the continued formation of tubercle, the process may die out and come to an end. A boy aged five had hip disease. Two years later there was free suppuration. This continued for many months, and was attended with high temperature and lardaceous disease. Excision was precluded by the burrowing of matter far down the thigh and by his exhausted state. Nor was it thought that he could bear amputation. The disease was therefore regarded as incurable. But very shortly afterwards he suddenly began to improve. In four months all his wounds were healed. He steadily recovered, and the lardaceous disease passed off. He is now quite well and walks with little limp; the joint is fixed, in a position of slight flexion and adduction. In this instance, I believe, the tuberculous process had long ceased, but suppuration continued profuse until the necrotic material had been got rid of. This eliminative process nearly cost the boy his life. But when it was complete, suppuration ceased and sound repair followed. In phthisis, even when a cavity has formed, the tuberculous process may, under favourable conditions, be arrested, and then, during a period of copious expectoration, the caseated tubercle is coughed up and sound healing occurs. Again, it is now well known that, in cases of tuberculous peritonitis which have even gone on to suppuration, laparotomy and draining of the peritoneal cavity may be followed by evacuation of all the tubercle that has been deposited and by complete and permanent recovery.

I believe that such cases as I have related—and which I submit, not as rare and exceptional, but as strictly representing the course of tuberculosis under favourable circumstances—show that the disease is by no means inveterate or beyond control. They are evidence that the bacillus often for want of an appropriate soil dies out. They show, in other words, that, instead of being tenacious of life, the bacillus is perishable and often short-lived; so that, in a large number of cases, its action entirely ceases. And when this is the case, and when its products have been got rid of, either by absorption or by suppuration, the tissues undergo sound repair. Holding these views regarding the course of tuberculosis, I turn to the question of treatment. The treatment of tuberculous joint disease has till lately been pursued under considerable disadvantages. First, it has been prejudiced by the tradition that these affections are little better than incurable. Secondly, the cases are so tedious that it is difficult to watch an adequate number of them to a conclusive result, or even to secure the requisite period of treatment. Thirdly, it is only recently that operative treatment has been so much improved that results hitherto unlooked for have been obtained. Fourthly, treatment of whatever kind has been subjected to the drawback that the cases have been often far advanced when it is brought to bear upon them. Under these circumstances it was inevitable that two main lines of treatment, widely divergent from each other, would be adopted and worked out: the one founded on the principle of removing all the structures involved in the parasitic growth by free excision of the joint; the other consisting of placing the joint under conditions most favourable to the arrest of the tuberculous process, so that the joint might be ultimately saved. The question which of these two methods is right is still under discussion. While some surgeons strongly advocate early and free excision, the great majority do all they can to avoid this operation. It is important, alike to the patients concerned and to the progress of surgery, that a definite conclusion should be arrived at as soon as possible. This subject will be discussed in the next lecture.

LECTURE II.

The principle upon which the operation of excision rests is easily grasped. It is the cutting away of a part instead of the cure of the disease in which the part has become involved. It is like removing the eyeball or the testis instead of curing the disease by which these organs have been attacked. Of course this treatment may be the best that can be adopted. But it is, at all events, a method which should be reserved for cases in which it is believed that no means of less severity will suffice. It was undoubtedly a great advance in conservative surgery when, forty years ago, Sir Wm. Fergusson and his contemporaries introduced excision as a substitute for amputation in the treatment of diseases of the joints. But, although excision has thus had the important effect of largely diminishing the number of amputations for joint disease, it rests upon a principle which many confidently anticipate is only a link in the chain of progress.

The following are the grounds on which excision is recommended. Mr. Croft holds that when there is fluid in the joint antiseptic incision should be made, as if the surgeon intended to excise, and he should only desist on finding the articular structures in a condition from which they could rapidly recover and yield a movable joint. When pus is known to be present, even if the surgeon is uncertain as to the condition of the joint, he should excise. If the surgeon is certain that necrosis has occurred, he should decidedly excise. Mr. Barker, in his lectures here last year, remarks: "It is most important to draw the clearest distinction between the liquefaction of caseation and true suppuration, not only as an abstract pathological axiom, but also for practical purposes. If a surgeon adopts the view that no operation is proper until suppuration has taken place in the tissues of a joint, he will always operate in very advanced disease. Tubercular affections are not associated with true suppuration, except in what may be called an advanced stage, so that if the surgeon waits till it is present much valuable time will have been irrevocably lost. But if the rule is made to operate as soon as there is evidence of the commencement of caseation, the conditions of operation are totally different. We shall be interfering in such a case relatively early, with all the consequent advantages. We must, therefore, in the future, watch for and endeavour to recognise early the doughiness of commencing caseation, rather than wait for the distinct formation of suppuration." And further on he says: "I venture to think it would be a wholesome rule that in cases where general tuberculosis does not contraindicate it, the infected tissues of a joint should be thoroughly removed as soon as it is suspected that caseation is advancing in it." Thus Mr. Croft would excise as soon as matter has formed, even without making himself certain as to the condition of the joint; while Mr. Barker would not wait for suppuration, or for a certainty that caseation has commenced, but he would operate as soon as he even suspected that this condition has set in. I think I am right in saying that Mr. Barker founds his views mainly on the nature of the tubercular process; for after remarking that, in the manner in which the disease spreads by continuous infection through the lymphatics and by entrance into veins, it offers a close parallel to the modes of generalisation of the so-called malignant neoplasms, he adds: "Indeed, there is much to justify our regarding tubercle in the light of a malignant growth, and our dealing with it accordingly." This appears to me to define his position in a single sentence, for every surgeon agrees that malignant disease should be freely removed as soon as its presence is detected. But, secondly, Mr. Barker dwells on the danger that, unless the local centre is removed, systemic infection may occur and general tuberculosis be developed. I propose to examine these arguments for early excision and the evidence on which they rest.

1. The view that there is much to justify our regarding tubercle in the light of a malignant disease, and our dealing with it accordingly, is, I think, derived from two considerations—(*a*) that tuberculosis is now known to be

due to the presence of a parasitic organism, and (*b*) that the disease so often runs an inveterate and destructive course. The fact, however, that a parasitic growth is present offers no indication that the disease is inveterate. Some parasitic micro-organisms are virulent and persistent in their action, while others are comparatively innocuous and short-lived. But it may be urged that a full warrant for regarding tubercle in the light of a malignant growth is found in the post-mortem room. I quite allow that some of the evidence here met with points in this direction. But such evidence must not be taken alone, for it is, in fact, indirect and inconclusive, and must be kept subordinate to the evidence derived from a careful clinical observation of a large number of instances of tuberculous disease, the great majority of which happily escape the post-mortem room. Such evidence I shall appeal to further on to show that tuberculosis is neither inveterate nor intractable, but that under favourable circumstances numerous examples of it result in sound repair. But the post-mortem room itself affords conclusive evidence that the tubercular process is often entirely arrested. This is the case in those numerous instances in which cicatrices are found in the lungs, the glands of the posterior mediastinum, and other parts. A very interesting paper confirmatory of these views was lately read before the Islington Medical Society by Dr. Sansom,[1] who, after an analysis of twenty cases in which he was satisfied that phthisis had been arrested, expressed the opinion that the bacillus of tubercle has a tendency to die out like other germs when placed under unfavourable circumstances. And a writer in THE LANCET, in reviewing this paper, reminds us of the following words of the late Dr. Hughes Bennett: "The careful dissections of morbid anatomists have recently shown that this arrestment (of the deposit of tubercle) really happens with extreme frequency"—as frequently, Dr. Bennett himself believed, as in one-third to one-half of all the individuals who die after the age of forty. As to the estimate of the inveterate nature of tuberculous disease which has been formed from clinical evidence, I may say at once that it urgently requires revision. Old statistics must be thrown aside, and present estimates must be derived from a critical examination of present results. In the instance before us it is necessary to take a comprehensive survey of these cases in their early as well as in their advanced and aggravated stage; to take into account those in which adequate treatment has been applied, as well as those which have been allowed to go on from bad to worse practically without treatment; and then to sum up and weigh the evidence afresh. I shall offer some figures bearing on this subject in the next lecture.

2. As to the view that early excision should be performed in order to avert the occurrence of systemic infection. I do not for a moment question the pathological doctrine of the production of general tuberculosis through the diffusion from a local source of tuberculous material along the lymphatics and the venous system. Such a result is, I believe, far from rare in children in whose bronchial glands tuberculous deposit occurs after whooping-cough or prolonged bronchitis. Many children, under these circumstances, die of tubercular meningitis, and, on post-mortem examination, their internal organs are found loaded with recent tubercle. Nor do I question that systemic infection may take place when it is one of the joints that is the seat of the primary deposit. I am fully persuaded that it does. But the point to estimate is in what percentage of cases does systemic infection occur? My own conviction is that its frequency, in proportion to the total numbers of cases of local tuberculosis, has been greatly over-estimated. That infection from the joints is comparatively rare becomes evident when a sufficient number of cases are examined. For example, the cases treated in the Alexandra Hospital for Hip Disease between 1867 and 1879, and which were tabulated by the Clinical Society in 1880, show that in 260 suppurating cases in which no operation was performed there were 16 deaths (i.e., 6·15 per cent.) from tubercular meningitis—in other words, from acute general tuberculosis; and in 124 non-suppurating cases there had been 7 deaths (i.e., 5·6 per cent.); while a careful analysis of cases treated in this hospital since 1880 shows that the mortality from general tuberculosis has fallen to less than 5 per cent.

In forming an estimate of the frequency of general infection, we may also examine Mr. Croft's 45 cases, and Mr. Wright's[2] 100 cases of hip disease treated by excision; for in a large proportion of these 145 cases the disease was well advanced before the operation was performed, and after the operation convalescence was in many retarded, so that the conditions favourable to general infection were present for a considerable period. In Mr. Croft's 45 cases, although the total mortality amounted to 35·5 per cent., the mortality from tubercular meningitis was only 4·4 per cent. While in Mr. Wright's series of 100 cases, although several patients died of tubercular disease, there was apparently only one case of acute general infection. From these figures it appears that, although the possibility of general infection from a tubercular joint is a distinct element of danger, the risk is so small that it cannot be regarded as affording any substantial support to the practice of early excision. For let us grant that in every hundred cases of tubercular joint disease going on to caseation there are five in which systemic infection will occur. This means that in every twenty children one will fall a victim, and that the remaining nineteen will escape; or, to state it otherwise, that the chances of escape in any given case are twenty to one in the patient's favour. The question therefore is, are we justified in resorting to excision in twenty cases in order to rescue the one case in which general infection would otherwise occur? Are we justified in excising the joint of a patient in order to avert the danger of general infection when the chances that he will escape are already twenty to one in his favour? I believe we are not. This seems to me to be the proper view to take even if there was a certainty that the operation could be performed in such a way as to ensure (*a*) that no tubercle should be left behind, and (*b*) that there was no other deposit from which infection might still occur. But there is no guarantee on either of these points. In the first place, no one can tell that he has removed all the tubercle in the neighbourhood of the joint so that none remains as a source of infection, or be sure that the joint which he excises includes all the tubercle that is present in the body of the patient.

There is, however, a further and very important matter to be taken into consideration. This is the fact that the operation of excision may precipitate the very result it is intended to prevent. Mr. Barker points out that cases have occurred amounting, according to the figures which he quotes, to no less than 10 per cent. of the total number of deaths, in which, after the operation, "rapid general miliary tuberculosis supervened in such a way as to suggest strongly, if not to prove, that the surgical interference was the exciting cause of the generalisation of the disease"; and he adds, "I cannot help feeling, after careful study of large masses of statistics, that, if it were possible to analyse them more accurately, this percentage would be still higher." I have myself seen this result of operation in a few cases. I should, however, say, from my own experience, that this rapid generalisation after operative interference is much less common than Mr. Barker thinks it is; and I notice, in confirmation of this view, that in Mr. Croft's 45 cases of excision of the hip there was no instance of it, and in Mr. Wright's 100 cases of excision of the hip there was only a single example (No. 63); in this case the patient died of general tuberculosis and tubercular meningitis two months after the operation. Still, whether it is rare, as I believe, or common, as Mr. Barker holds, it is a danger which those who often resort to excision must be prepared to encounter.

Thus, after carefully weighing the evidence we at present possess respecting systemic infection from tubercular joints, I am led strongly to the conclusion that the number of cases in which it takes places is so limited that the prospect of its occurrence constitutes no valid reason for early excision. And this opinion is confirmed by the fact that there is no certainty that after excision there may not remain other tubercular centres from which infection may still be developed, or any certainty that the operation may not itself precipitate the result.

When we leave this part of the subject, and, turning to clinical experience—which, after all, must be the ultimate test—ask what actual results have been obtained by early excision, we are met with a serious and, it may be, to some an unexpected difficulty. This consists in the small amount of evidence that has yet been produced. Mr. Barker, who has carried his advocacy of the operation further than any other English surgeon, gives in his College Lectures no results whatever. He has an entirely different object in view. He defines his position by saying, "I am anxious, in the first place, to emphasise the need there is of attending to the reduction of the mortality from tubercular disease of joints before we have anything to say as to the preservation

[1] THE LANCET, April 6th, 1889.
[2] Hip Disease in Childhood (1887), p. 136 et seq.

of their functions." Such an attitude as this will occasion no surprise when we remember that in his opinion "there is much to justify our regarding tubercle itself in the light of a malignant growth, and our dealing with it accordingly." Of course, if this is the correct view, tubercle must be treated as we treat carcinoma and sarcoma. A tuberculous joint must be excised, and the sooner the better, just as we excise a cancerous breast. We cannot arrest disease which presents the characters of malignancy; we can only remove the part upon which the disease has fastened itself. It is impossible, however, to shut one's eyes to the fact that this is an estimate of tuberculosis which the great majority of surgeons would not for a moment entertain. The estimate formed by Brodie, endorsed by Paget and Hilton, and accepted by a very large proportion of those who have studied the subject from a clinical point of view, is that, though often intractable and destructive in its later stages, tuberculosis, on a general survey, wears the aspect of merely an obstinate inflammatory process, the whole course and tendencies and results of which are widely divergent from those of malignant disease. And to such as hold these views excision presents itself, not as a strict necessity, as it is when we have to deal with cancer or sarcoma, but as a method which may possibly yield better results than can otherwise be obtained. But this is an open question, and one which can only be settled by ample and thoroughly sifted clinical evidence. Those who advocate excision must prove their case by the results which they produce. But since his lectures were given Mr. Barker has shown a case at the Medical and Chirurgical Society. In this instance, in regard to the operation itself, an excellent result had been obtained, for the wound healed by primary union, and the case was an excellent example of the progress which has lately been made in the treatment of wounds. When, however, the limb was examined at the meeting, it was found to be flexed and adducted, and there was considerable lameness. Thus, while the great and quite undeniable advantage of immediate repair of the wound had been secured, the condition of the limb in regard to the patient's power of walking was scarcely superior to the average results hitherto obtained, and with which many surgeons have been so much dissatisfied. On the same evening Mr. Bilton Pollard showed three examples of excision of the hip in which the same excellent result of primary union had been secured; but, as he was careful to point out, the cases were all recent, and the patients, who were still wearing splints, had made no attempt to walk, so that what the future condition and powers of the limb would be was as yet undecided.

LECTURE III.

Next let us examine the results of the operation when undertaken for more advanced disease. It would be unjust to Mr. Croft to regard the results which he obtained in the group of 45 cases of excision of the hip which he published in the Transactions of the Clinical Society in 1880, and which showed a mortality, when the deaths from intercurrent disease had been excluded, of 35·5 per cent. as representing his present results. These would, I do not doubt, be much more favourable, but they have not yet been published. I hope, however, we may have them soon. I will now take Mr. Wright's table, which furnishes us with a full record of 100 cases in which he excised the hip-joint between 1880 and 1886. Of these, 17 were soundly healed; 57 were unhealed; 13 had died; 5 were dying or going downhill; 2 were in a bad condition; 1 might need amputation; 4 had undergone amputation; 1 recent case, doing well. As this table includes just 100 cases, the percentage results are apparent at a glance. Now, as all these cases occurred within the last ten years—that is, since the management of wounds has been so much improved,—and as they were in the hands of a surgeon of well-known ability and ample experience, they can scarcely be regarded as affording strong evidence in favour of excision. For, of the whole number, 17 only were satisfactory—that is, had healed; and against these successes must be placed 17 in which the operation had completely failed—i.e., there were 13 deaths (1 after amputation) and 4 amputations, and 8 in which there seemed no hope that failure could be averted, for 5 were reported to be dying or going downhill, 2 were in a bad condition, and 1 was a case in which amputation might be required. In other words, while 17 per cent. were successful in regard to sound healing of the wound and a useful condition of the limb, 25 per cent. ended in failure. The remaining 57 (one case being excluded as too recent to be classified) were still unhealed, although in a large number more than a year had elapsed since the operation was performed. In many of these the patients were in good health, and the wound appeared to be merely superficial and the discharge was slight; but, on the other hand, in several the discharge was free and the general health defective. I think, in short, that anyone who studies these cases will be driven to the conclusion that about 20 per cent. were successful and that about 80 per cent. were unsatisfactory.

In these 100 cases of Mr. Wright's, there are 30 in which the disease had been in progress either nine months or less than nine months when excision was performed, the average period being six months; so that they afford us some information as to the ultimate results of early excision—a point upon which, as I have already said, evidence is at present very meagre. Of these 30 cases, 1 died of pyæmia, 1 of measles and tuberculosis, 1 of exhaustion, 1 was dying of lardaceous disease, 2 underwent amputation, 6 (20 per cent.) entirely failed, 6 (20 per cent.) healed soundly, 7 (about 20 per cent.) were unhealed at the end of one year and 6 (20 per cent.) at the end of two years, and 5 (about 20 per cent.) were too recent to be classified; that is, omitting the 5 recent cases, about 20 per cent. were successful, 20 per cent. ended either in death or amputation of the limb, and another 40 per cent. were unsatisfactory. I will refer to these results again further on.

While I am speaking of excision, I may be allowed to express a hope that Mr. Howse, who has, I believe, performed more operations of this kind than anyone else in England, but who has not yet published the results he has obtained, may shortly find time to give us his experience. The statistics he could lay before the profession would be of the greatest value, and would furnish us with facts in regard to many important and still warmly debated questions upon which we possess at present but very meagre information.

Before leaving this part of the subject, I wish to allude to Mr. Croft's view that "when pus associated with pan-arthritis (or strumous disease of joints in children) is known to be present, even if the surgeon is uncertain with regard to the state of the bone, he should excise."[2] I cannot but regard this rule, when it is thus made absolute and stated without qualification or reservation, as altogether misleading, because it ignores cases that are frequently met with in which the formation of an abscess is intimately connected with the curative process, and takes place as the immediate precursor of sound and permanent recovery. The cases I allude to are those in which the tuberculous process has come to an end, and in which the tuberculous material, becoming necrotic, plays the part of a sequestrum. Around this effete material an abscess forms, and when it is evacuated the necrotic products are also swept out, with the result that the tissues, now free from this foreign material, and having become otherwise sound, quickly return to a normal condition. Such abscesses as these belong to the general class which Sir James Paget has termed "residual." They form in chronic joint disease quietly, without pain or fever, and often very rapidly. If left, they frequently attain a large size; and if evacuated with due care, they frequently heal without any further formation of pus; or they heal in five or six weeks, often at last secreting no pus, but merely clear amber-coloured serum. Some, indeed, cease to increase, and remain quiet, and are at length completely absorbed. A boy of eighteen was lately in St. Bartholomew's Hospital who, when he was between five and eight, was under my care for hip disease. When he had been lying for nine months, an abscess, holding not less than six ounces, formed on the outer side of the thigh. This was entirely absorbed in the course of six months, and has not reappeared, nor has the patient since had any trouble with the joint. Others among these abscesses, if left, burst spontaneously, and then quickly and safely heal. Thus, as I have remarked already, an abscess often constitutes the last step in repair. Obviously, to excise a joint in such cases as these would be a calamity to the patient, and a reprehensible step on the part of the surgeon.

The cases met with at the Alexandra Hospital contain conclusive evidence upon the important question of the frequency of necrosis in mass, in hip disease, so that sequestra are produced of such a size and consistence that

[2] Clin. Soc. Trans., vol. xiii., p. 71.

it is necessary to perform an operation for their removal. It has been maintained that sequestra often form, and that the whole head of the femur frequently undergoes necrosis and becomes detached. That the head may be separated so as to form a large solid sequestrum is well known. But that both this necrosis of the whole head, and necrosis of any part of the head of the bone or of the floor of the acetabulum, so that firm sequestra requiring operative interference for their removal are formed, are rare, is clear upon the following evidence. First as to necrosis of the whole head. So far as I can remember, I have met with only four examples of it. And Mr. Bowlby informs me that neither at the Alexandra Hospital nor at St. Bartholomew's Hospital, where he has been surgical registrar for several years, has he ever seen it; nor has he ever found it in the post-mortem room. Secondly, I recently examined fifty cases of suppuration, in which all sinuses had soundly healed. Now in no single instance among them had any sequestrum been either removed by operation or extruded in the discharge, so that it is evident either that sequestra are rarely produced or that they are soft and easily removed in the discharge. The true explanation is to be found in the structure of the bones that form the hip-joint. These are composed of cancellous material, rich in marrow and blood-vessels. When this vascular soft structure is inflamed, it becomes so soft that it is easily cut with a knife or broken down with a gouge. Such a structure is readily destroyed and got rid of by suppuration.

An account may now be given of the results to be obtained by means short of excision. In the following summary I shall keep to the instance of the hip, because it is in reference to this joint that the operative treatment of tubercular disease has been most strongly advocated.

The treatment adopted, that of prolonged rest in the horizontal position combined with weight extension of the affected limb, is so simple and so well known that it is needless to describe it. But the method of dealing with suppuration claims more particular notice. All abscesses are opened as soon as they are detected. An incision from an inch to an inch and a half is made, matter is evacuated by gentle pressure, and a drainage-tube just long enough to enter the cavity is used for two or three days. The dressing consists of carbolic gauze next the wound, and this is covered with alembroth wool. The dressing is changed according to the case. In many instances the wound closes in a fortnight or three weeks, sometimes even sooner. In others it becomes a sinus, slightly discharging for a month or six weeks, and then soundly healing. In others, again, suppuration remains free for several weeks or even longer, and further openings have to be made. But at length in a large majority of cases the wounds heal, and no further suppuration, except in a very few instances, takes place.

The following is an analysis, in which I had the valuable assistance of Mr. Bowlby, of cases treated at the Alexandra Hospital since 1880. One hundred and sixty patients (taken without selection) were written to, and 76 came for inspection. Of these 76 patients, 37, or a little less than half, were cases which had suppurated; and 39, or a little more than half, had not suppurated. Among the 37 there were 2 cases of double disease, and in the 39 there was 1 double case. Of the 37 suppuration cases (only 4 of which still had sinuses, and these were superficial), 24 (65 per cent.) were either perfect (1), excellent (6), or good (17), and 13 (35 per cent.) were moderate. When examined, 7 had been discharged between one and two years, 9 between two and three years, 5 between three and four years, and 16 over four years. As to shortening, 3 had none, 17 had under an inch, 12 between one and two inches, and 3 had two inches and over. (As to movement, 1 had perfect movement, 10 had free, 7 had slight (50 per cent.), and 18 (or 50 per cent.) were fixed (one not noted). As to power of walking, 2 walked perfectly, 22 walked well, and 13 walked indifferently. Of the 39 non-suppurating cases, 9 were perfect, 9 excellent, 12 good (77 per cent.), and 9 moderate (23 per cent.). The average shortening was two-thirds of an inch. In 50 per cent. there was perfect or free movement, and 50 per cent. had slight movement, or were fixed; 12 walked perfectly, 20 walked well (84 per cent.), and 16 per cent. walked indifferently. I believe these cases fairly represent the results of non-operative treatment. The number of deaths from the disease, so far as we could learn, in 614 cases treated since 1880 was 35 (meningitis, 12; phthisis, 5; lardaceous disease, 9; following amputation, 3; exhaustion, 2; uncertain, 4). This mortality in 614 cases amounts to nearly 6 per cent.; the deaths from meningitis being a little under 2 per cent., and from phthisis less than 1 per cent. In 13 other instances in the total of 614 cases the patients were incurable. If these are added to the deaths, we have 52 cases—i.e., 8·4 per cent. in which the treatment is known to have failed. Comparing the results of excision with those of the treatment by long rest, we find that, while the mortality under the latter system is considerably less than 10 per cent., under the former, if we take Mr. Wright's cases, it is certainly not less than 20 per cent. Mr. Barker's and Mr. Pollard's cases, however, foreshadow a great reduction; and no doubt the immediate result of excision will show a great improvement on former experience. The main defect of excision will lie in the ultimate condition of the limb when it is compared with a limb in which no operation has been performed. It is now seen that, although in excision of the knee in children primary union may occur, especially when the operation is done early, the ultimate result is often very unsatisfactory. It will, I think, be the same with the hip. Early operation will be followed by rapid healing, but the limb will be weak and defective in usefulness; while, if adequate rest is secured at the same stage, a much more serviceable limb will be secured.

A CASE OF

RAYNAUD'S SYMMETRICAL GANGRENE IN A PATIENT SUFFERING FROM CONSTITUTIONAL SYPHILIS.

WITH SOME REMARKS ON THE HISTORY, NATURE, AND MANIFESTATIONS OF THE DISEASE.

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(*Concluded from page 108.*)

DR. DICKINSON has shown that a large proportion of those who have experienced attacks of hæmoglobinuria have, at some time of their lives, suffered from some form of malarial fever. Indeed, in fifteen of his twenty-one cases he discovered a history of ague, or, at all events, a probability of exposure to malaria. These figures clearly indicate that intermittent fever is very much more often associated with hæmoglobinuria than with any variety of Raynaud's disease. In the ninety-three cases which I have collated, ague in one or other of its varieties is only alluded to five times as one of the diseases which preceded gangrenous paroxysms. At the same time the great value of quinine in the treatment of the latter disease has been frequently insisted upon, and is, it must be admitted, a noteworthy fact. This is well shown in one of the cases in my tables. It is recorded in the first volume of the Annual Register, and was described by Mr. Richard Grindall, surgeon to the London Hospital, in a letter read before the Royal Society on Dec. 8th, 1757. I will transcribe a portion of the letter, which is somewhat quaint: "On June 28th, 1757, Mary Alexander, of the parish of Whitechapel, aged thirty-seven, was brought into the London Hospital, having a mortification in both hands, which reached about an inch and a half above the wrists. All her toes and about an inch of one foot beyond the last joint were mortified. Her nose was also entirely destroyed by mortification; and all this happened at the same time. Upon inquiring into the cause of this misfortune, I found that on Monday, May 30th, she was seized with quotidian ague, which usually began about 3 o'clock in the afternoon, and lasted nearly two hours, which was succeeded by a hot fit and then a violent sweat. This patient, as soon as she arrived at the hospital, was given a drachm of the powder of bark every four hours, and after taking it for forty-eight hours there was a separation of all the mortified parts."

The cases I have collected lend no support to the opinion of those who believe that, in many cases of symmetrical gangrene, a dissolution of the blood-corpuscles is liable to occur in the vessels of the extremities during the paroxysms of asphyxia. To these destructive changes in the blood

some authorities have attributed the jaundiced tint of the skin which has been occasionally observed in these patients. In my own case no such change in the blood cells was observable, either in that taken directly from the tips of the fingers or from other parts of the body. The outline of the discs, and the manner in which they arranged themselves in characteristic rouleaux, was in all respects normal. Raynaud also observes that, in one of his cases, when the digit was pricked, no change was discovered in the blood-corpuscles under a microscope. In describing the more prominent symptoms experienced by my patient, I have directed attention to a narrowing and constriction of the arteries in the retina, which was seen with the ophthalmoscope during his first stay in the infirmary. At this time his sight was sufficiently good; on his return to the hospital, four months after his discharge, he stated that shortly before his admission he was attacked with violent pains in his head. These pains were unlike the pains of ordinary headache; "they were severe shooting pains, darting across his forehead in violent paroxysms; while they lasted, his sight was strangely affected; different objects appeared dim to him and looked as he had been accustomed to see them when under the influence of drink." At the time these attacks were most pronounced he was not as yet an inmate of the hospital. It is impossible, therefore, to say what may have been the ophthalmoscopic appearances of the arteries of the retina at that time; perhaps, however, it is permissible to assume that they coincided with those observed by Raynaud in one of his patients. In reference to this case, he remarks that "the sight of his patient at times became troubled and confused; when the eyes were examined on these occasions, the central artery of the retina and the arteries which proceeded from it presented very clear contours, and it was established very definitely that they were narrower in their commencement near the papilla than at the periphery; here and there was observed a sort of partial strangulation." In this case a partial and intermittent anæmia was accompanied by visual disturbance; in another case, also recorded by Raynaud, a patient complained of experiencing, at the moment of the commencement of the cyanosis, a notable obscuration of the sight. Mr. Bland has lately called attention to another case, in which the vision was materially affected, and the patient complained of dimness of sight and inability to read. On ophthalmoscopic examination, the fundus of the eye was seen to be unusually pale, while the vessels were blanched and almost indistinct. In this case vision was restored, and the optic disc appeared normal. Mr. Hutchinson[1] also has recorded the case of a woman, aged thirty, who suffered from symmetrical gangrene. In this patient he demonstrated the presence of iridoplegia, which was, in his opinion, in some way connected with disease of the vaso-motor system. The influence of this system on the circulation of the brain is curiously exemplified in a certain proportion of the cases of symmetrical gangrene which I have collated in my tables. This interesting fact had not escaped the observation of Raynaud, for he remarks, in reference to one of his cases, that occasionally, "on waking, the patient knows no longer where he is; he has lost the notion of the time, seems foreign to all that surrounds him, and remains a considerable time in a state of profound hebetude; it is of importance to rouse the patient promptly from this condition, because, whatever may be the cause of it, we have reason to fear, on the part of the brain, a morbid process analogous to that which affects the periphery." Numerous similar cases have been recorded, in some of which loss of consciousness, in others loss of speech, and in others loss of motor power, have been observed. Thus Dr. Southey refers to a patient who on one occasion had a fit, which lasted an hour, in which consciousness was lost. Englisch also alludes to a woman who was frightened, fell down insensible, and lost her speech for a time. In another of Raynaud's cases, a patient, aged fifty-two, one day while at church lost consciousness and became hemiplegic on the left side for two hours. Dr. N. O. Bernstein speaks of a patient in whom the symptoms of local asphyxia were associated with epileptic fits, which he attributed to a local anæmia of those portions of the brain which determine the occurrence of these attacks. M. Weiss also describes a case of symmetrical gangrene in a young woman who on two occasions was the subject of aphasia; the aphasia in this case was ascribed to an ischæmia of the arteries which supply the centres of speech. Fits, accompanied by loss of consciousness and epileptic convulsions, were also observed in Mr. Caut's case. In all these examples of the disease, it may, I think, be reasonably assumed that the disturbance of the blood-supply seen in the feet and hands was imitated in the vessels of the brain.

What proportion of the cases I have collected terminated fatally it is not easy to calculate. In numerous instances the sufferers, being hospital patients, were lost sight of, and nothing was known regarding the terminations of their illnesses. Still, it is distinctly stated that in fifteen of the ninety-three cases the patients died while under medical observation. Several of these deaths, however, were attributed to phthisis or some intercurrent attack of illness. Numerous points of interest bearing on Raynaud's disease are scattered through my notes. Thus in a considerable number of cases, even where the disorder proved symmetrical, the attacks on the two sides did not exactly coincide in respect to the time of their occurrence. Sometimes a few days, sometimes several months, intervened before the gangrenous processes observed on one side of the body appeared on the other. Another point clearly demonstrated goes to show that the paroxysms were not by any means always either induced by cold or aggravated by a low state of the temperature. In my own case the symptoms began in comparatively warm weather, in the month of June. One of Raynaud's patients, a thrasher, was invariably worse during the great heat of summer. In Mr. J. R. Bigg's case it is stated that for years the extremities were very cold even in hot weather. Dr. Duka, moreover, has recorded a case of gangrene of both the lower extremities observed in a Hindoo girl from Simla, who was never exposed to cold. Gangrene, it is said, is not uncommon in that part of India, being generally met with in malarial districts among persons suffering from various forms of anæmia.

Although, in the vast majority of cases, Raynaud's disease is, in its distribution, symmetrical, the patches on one side often corresponding with extraordinary exactness to those on the other, still in some few instances (eight out of ninety-three) only one extremity was affected. In certain cases, also, the secretions appear to have been more or less involved; here the mummified parts, instead of looking dry and parched, were covered with large drops of cold perspiration. Special reference to these secretory disturbances is made in six of the cases I have collected. The number of cases in which either the terminal phalanges of the fingers or a whole limb was lost, either spontaneously or by an operation, is very considerable, no fewer than seventeen of the ninety-three patients having suffered from this grave complication. Many symptoms to which I have not alluded have been described by Dr. Barlow in his appendix to Raynaud's papers. Among others he refers to various skin disorders, such as chilblains, urticaria, and scleroderma. He also speaks of changes in the joints and the structures which surround them, and generally throws much valuable light on the etiology and manifestations of the disease.

A study of the history of medicine often brings to our notice cases which we are altogether unable to explain, but which nevertheless, from a consideration of the trustworthy sources from which they are derived, it is impossible wholly to reject. Such a case is recorded in the Philosophical Transactions for 1761. The particulars are contained in a letter written by Dr. Wollaston to Dr. William Heberden, two of the most distinguished physicians of the last century. The case is thus described by Dr. Wollaston: "John Downing, a poor labouring man, who lives at Wattisham, in January last had a wife and six children, the eldest a girl about fifteen years of age, the youngest about four months. They were at that time very healthy. On Sunday, Jan. 10th, the eldest girl complained in the morning of a pain in her left leg, particularly in the calf of the leg. Towards evening the pain grew exceedingly violent. The same evening another girl about ten years old complained of the same violent pain in the leg. On the Monday the mother and another child, and on the Tuesday all the rest of the family except the father, were affected in the same manner. The pain was exceedingly violent, insomuch that the whole neighbourhood was alarmed with the loudness of their shrieks. The left leg of most of them was only affected, but in some both legs. The little child was taken from its mother's breast as soon as she was taken ill, and lived

[1] Medical Times and Gazette, 1871.

a few weeks; the nurse told me it seemed to be in violent pain, and that its legs were black before death." The state of the extremities is thus described by Dr. Wollaston: "Mary, the mother, aged forty, the right foot off at the ankle, the left foot mortified; Mary, aged fifteen, one leg off below the knee, the other perfectly sphacelated; Elizabeth, aged thirteen, both legs off below the knees; Sarah, aged ten, one foot off at the ankle; Robert, aged eight, both legs off below the knees; Edward, aged four, both feet off at the ankles. The father was attacked about a fortnight after the rest of the family, and in a slighter degree, the pain being confined to two fingers of the right hand, which turned blackish and were withered for some time, but are now better, and he has in some degree recovered the use of them." It is further added that "during all the time of this calamity the whole family were said to have appeared in other respects well; they ate heartily and slept well when the pain began to abate. One poor boy, in particular, looked as healthy and florid as possible, and was sitting on the bed quite jolly, drumming with his stumps." These poor persons are said to have lived, in so far as their diet and mode of life were concerned, much in the same way as their neighbours, and Dr. Wollaston remarks: "I cannot discover anything to which I can in the least attribute this very surprising attack." It is distinctly stated that no rye bread was eaten by any of these persons, and that they were not exposed to severe cold, as the weather was remarkably mild for the season. It is added that a nurse who lived with this family from the beginning of their illness had not been affected.

It is, it must be admitted, no easy matter to explain such an epidemic outbreak of gangrene as that here described. Personally, I have seen no examples of gangrenous ergotism; but from what I have read of that disorder it differs materially from Dr. Wollaston's cases. The constitutional symptoms are far more grave; it is rarely observed among women, never in children at the breast, while the upper extremities are but seldom invaded, as in the case of the father of this family. Nevertheless, whatever may have been the exciting cause of these destructive changes, solely confined to the members of one family, and altogether inexplicable to those who studied the features of the malady, it seems reasonable to assume that some constitutional peculiarity, a state of system somewhat vaguely described as an idiosyncrasy, existed in these persons in so exaggerated a form as to render them susceptible to influences inappreciable to their neighbours, persons living under the same outward conditions of life as themselves.

As regards the nomenclature of this disease, no name can more fittingly convey to the reader its characteristic features than the name of its distinguished discoverer. The term "symmetrical gangrene" is certainly inappropriate, inasmuch as a considerable number of cases have been recorded wherein one extremity, and one only, was at any time affected. This fact was recognised by Raynaud himself; and, seeing that the science of medicine is indebted to him for almost everything we know regarding the etiology, the symptoms, and the pathology of this interesting neurosis, it may, I think, most appropriately be known in medical literature as "Raynaud's disease."

Manchester.

PRESENTATIONS.—Recently, at St. Bartholomew's Hospital, Mr. Mark Morris, the steward, was presented with a portrait of himself (painted by Mr. W. W. Ouless, R.A.), which had been subscribed for by his many friends and colleagues, as an appreciation of his long and honourable connexion with the hospital, covering a period of nearly fifty years. In concurrence with the wish of the subscribers, and by his own desire, the portrait was at the same time offered to the governors, and on their behalf accepted by the treasurer, and it will be placed in a suitable position in the hospital.—On the 12th inst., in view of Mr. John Poland retiring from the post of senior demonstrator of anatomy at Guy's Hospital, the students presented him with some handsome lamps and an album, as a slight recognition of the work he had carried on for their welfare during the past eight years.—Mr. Christopher Bulteel has received two handsome testimonials from the Royal Hospital, Devonport, on his retiring from practice; from the sisters and nurses of the institution an ebony paper-cutter, in the shape of a scimitar, with an embossed silver handle; and from the medical staff and resident officers a silver salver.

THE

ETIOLOGY AND TREATMENT OF CHRONIC SUPPURATIVE CATARRH OF THE EAR.[1]

BY H. MACNAUGHTON JONES, M.D., M.CH., &c.

IN discussing the subject with the above title, I do not mean to limit myself to the more modern interpretation of the term "otorrhœa," but to include also in my observations discharges from the external ear passage. The affection is of peculiar importance to the practitioner from three points of view: First, the wide field of causation which makes discharge from the ear following otitis externa or media an accompaniment of, or a consequence upon, other diseases we are called on to treat. Secondly, the tediousness and obstinacy of ear discharges which generally resist insufficient and inefficient treatment until complications have arisen that either permanently impair hearing or destroy it, or perchance may threaten life. Thirdly, the gravity of the sequences that may follow—as deafness, mutism, mastoid necrosis, septicæmia, and cerebral and cerebellar abscess.

It is not my intention to discuss any matters outside the limits of the title of this paper, and which I would point out has purely to do with the etiological facts that bear on the treatment of chronic suppurative catarrh itself, and not with the graver consequences that unfortunately at times attend on it. In short, it is to the prevention of those too frequent evidences of either ignorance or neglect that I desire to dwell upon rather than on what are often the hopeless endeavours to redeem the lost time, in restoring a shattered sense, or rescuing a life that is doomed. I ask attention, in the first instance, to some general considerations that affect our view of all suppurative states of the ear passages from the external meatus to the Eustachian tube. It will be sufficient for me here to acknowledge the labours of Löwenberg, Weber-Liel, Orne Green, Bezold, and Zaufel, among many others, in advancing, if not indeed creating, modern aural bacteriology, which creation itself we owe to the genius of Pasteur, who assisted Löwenberg in working out some of his researches on aural furuncle in the inoculation of rabbits, and the cultivation and reproduction of the aural microbe or pyogenetic staphylococcus of Pasteur.

Here with benefit may be broadly reviewed the present position of otology both as regards ear ferments and bacteria. I would first, however, remark upon the suitability of the ear passages for the origin and completion of fermentative processes. Whether we look to the external meatus, the cavity of the tympanum, or the Eustachian tube, we find those essentials for fermentation, fermentation products, and ferment life which we artificially secure in advancing that process elsewhere or outside the body. We have a limited supply of air and light, with, in the case of the tympanum, only periodical or interrupted interchange. There is an elevation of temperature due to the free vascular supply in the auditory walls and structures; there is a constant condition of moisture; there is a near approach to "life without air," as Pasteur defined fermentation. Look a little further, and we find the ready elements for providing the initial ferments in the ceruminous particles, the sebacious secretion, the epithelial débris of the external ear, the mucus of the tympanic cavity, and the presence in the Eustachian tube of throat mucus, or nasal and pharyngeal epithelium, that may find its way thither. Also other nasal and gastric gaseous emanations enter periodically into the tube and the middle-ear cavity—for example, those of ozæna. This fermentative process finds occasional expression in the spreading forms of aspergillus; while in the crevices of the external meatus, the elevations and depressions of the tympanic walls (should it invade the tympanum), or in the ossicular folds, the fungus finds secure shelter and resting-places for its spores to sprout afresh. This being so in the case of fungi and ferments generally, it is not surprising to find such fungi participating in the morbid processes that lead to the chronic purulent discharges of the external or

[1] Paper read at the West London Medico-Chirurgical Society.

middle ear; couches of inspissated pus and dead epithelial débris, with hardened mucus, form comfortable beds for the troublesome tenants, who, once in possession, will not stir without forcible eviction. To Wreden, Cramer, Burnett, Orne Green, Mayer, and Schwartze we are permanently indebted for our knowledge of the life history of these fungi. It should be remembered that they grow somewhat like mould on an old boot, when left in a damp place, ignored and neglected.

We turn now to the microbic side of this bacterial pathology of the ear. Though it has not yet been shown that characteristic pathogenic bacilli (that is, bacilli capable of producing some specific or contagious disease, local or general, with typical features and distinctive characters) exist in the healthy individual's ear passages, or in the secretions therein formed, the non-pathogenic varieties have been found; and, as was well remarked at the International Congress in 1887 by Professor Frothingham, in referring to Professor De Rossi's observations on the presence of benign organisms (streptococci and bacilli) in healthy Eustachian mucus, and the absence of the pathogenic varieties, "who can say under what circumstances non-pathogenic organisms may not become pathogenic?" As aerobic (twin, spherical) bacteria, the pathogenic microbes infect the outer ear in the case of furuncle and abscess, are found in the pus, and may, as suggested by Löwenberg, reinoculate the neighbouring parts. Cornil and Ranvier put forward the hypothesis that in those isolated and recurring contagious inflammations, the bacteria, as they cannot live in the blood, are arrested in the lymph vessels of the connective tissue. But in abraded states of the mucous membrane (no matter how slight), whether in the external meatus or the membrana tympani, or in the Eustachian tube, we have the door opened for the entrance of septic and miasmatic bacteria and the establishing of the septic process. Indeed, in catarrhal conditions these bacteria find access to the increased or altered mucus, and through it to the underlying tissues. The same remark applies to the pathogenic bacteria. Imperceptible abrasions are the welcoming portals for aerial and liquid microbes to enter and form purulent deposits in. Löwenberg points out how the fine hairs of the meatus may arrest the microbes, and actually direct them in their course to the congested follicle. The micrococci both of suppuration and putrefaction are thus furnished from the outer air to the meatus, from the nose (Löwenberg's micrococcus of ozæna), and from the mouth. Thus we find that the putrescent processes in the external and middle ear, so often associated with disease of the mucous membrane and bone, are originated by some injury to the external ear, or by a diphtheritic or other ulceration of the mouth, nose, or palate. The investigations of Moos and Klebs have proved the migration of pathogenic organisms in diphtheria into all parts of the labyrinth, and also into the adjacent portions of the petrous bone.[2] The avenues of entrance may be (according to these authorities) roughly divided thus: (1) The general circulatory current through the thoracic duct and lymphatic vessels, and thus to the Haversian canals and perilymphatic spaces; (2) in other directions by way of the ductus perilymphaticus of the aqueductus cochleæ to the scala vestibuli of the cochlea; (3) the endolymphatic spaces by the lymphatics of the nasal mucosum and the subdural spaces of the nerve roots and the lymph channels of the peripheral nerves; while others apparently find their way by the fissures (? lymphatic vessels—Schwalbe) in the fibro-periosteal tissue lining the aqueductus vestibuli.

I will leave now these pathological and septic bacteria, and dwell for a moment on a class of micro-organisms of a different morphological, etiological, and clinical interest. I refer to malarial bacilli. We know that it is now an established fact, thanks to the researches of Klebs, Nägeli, Salisbury of Cleveland, Crudeli, Cecci, Laveran, and Richard, that associated with malarial and miasmatic conditions are to be found species of schizophytes in the blood and on the mucous membrane of the intestinal canal. The association of intermittent affections with miasmatic surroundings in marshy valleys, in swamps, and wet grounds and malarial districts generally is well known. Klebs, Tommasi-Crudeli, and others have found bacilli furnished with spores in the soil of such regions. The inoculation of the culture of these bacilli into rabbits has caused intermittent fever, though it is not to be forgotten that Cornil and Ranvier criticise the views of Laveran as to the presence of such malarial bacilli in the blood of those attacked with intermittent fever, rather regarding the mucous surfaces as the habitat of the microbes, and the chemical poisons generated through their action as the agents operating on the corpuscular elements in the blood. As far back as 1871 Weber-Liel gave the name of "otitis intermittens" to those recurrent attacks of middle ear inflammation which he attributed to the influence of malaria. The rhythmical nature of the onset of pain, fulness, giddiness, rigors and perspirations, tinnitus, and deafness were characteristic, ending occasionally in perforation of the drum head. With the same recurrent obstinacy furunculi occur in the meatus. Aural neuralgia is a marked feature of the affection. General vaso-motor fulness, tendency to exudations, and chronic catarrh are constant consequences of this form of otitis. Weber-Liel, Orne Green, Löwenberg, and others have traced the relation between these intermittent attacks of otitis media and malaria. Season of year, foul emanations from drains, defective sewerage, and rainfall have explained the epidemic nature of the disease. Miquel and Rindfleisch have shown that there is a distinct relation of the rainfall to the growth of the parasitical fungi, the development of which latter it encourages, while it is destructive to the growth of schizophytes. Miquel, at the laboratory at Montsouris, has proved the relation of season of year and rainfall to the amount both of germs and fungi in the air. On the other hand, Löwenberg has pointed out that there is a close connexion between the number of micrococci found in the pus of furunculi and in chronic discharges and the duration and age of the discharge. The same observation applies with almost equal truth to the putrescent character of the discharge and its unpleasant odour.

From these necessarily condensed observations it may be perceived how important a part is played in the etiology of aural suppurative discharges by vegetable micro-organisms. In order that we may the more clearly recognise this etiological fact, I may here classify the causes of chronic suppurative discharges from the external and middle ear.

External Ear.

Diseases of the external meatus more especially causing otitis media	Traumatic affections. Cerumen. Otomycosis. Furuncle. Dermatitis. Abscess. New growths.
Sea-bathing.	

Causation of Chronic Suppurative Catarrh (External Meatus).

Diathesis	Struma. Tubercle. Gout.
General diseases	Syphilis. Diabetes. Fevers. The exanthemata. Scarlet fever. Measles. Diphtheria. Whooping-cough (associated with). Mumps. Erysipelas.
Eczema and some cutaneous diseases.	
Traumatic	Injuries. Foreign bodies. Stings of insects.
New growths	Polypus of various kinds.
Climatic and hygienic	Residence in the tropics. Temperature, dust, sand. Rainfall and moisture. Season of year. Miasmatic influences. Sewer gas. Defective drainage. Gas leakage. Auto-infection with hand. Epidemic influences. Trades or occupations.

[2] Annual of Universal Medical Sciences, 1888, vol. iii., pp. 244-47.

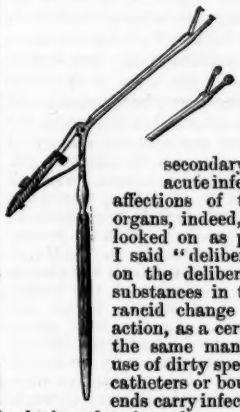
Neglect of cleanliness	Dirt. Cerumen. Dead epithelium. Rancid oils. Pieces of wool.
Fungus	Aspergillus.
Idiopathic inflammations ...	(Arising from cold, sitting in draughts, &c.) Acute localised and diffuse dermatitis. Abscess.
Sea-bathing.	

Causes more especially operating in the Middle Ear.

Diathesis	Gout. (Rare.) Struma (tubercle). (Frequent.)
General diseases	Primary syphilis. (Rare.) Inherited syphilis. (Occasional.) Fevers. (Exceptional.) Phthisis. (Occasional.) Exanthemata. (Frequent.) Diphtheria. (Occasional.) Mumps. (Occasional.) Angina Ludovici. Whooping-cough. (Not infrequent).
Paroditis.	
Tonsillitis.	
Naso-pharyngeal adenoid.	
Naso-pharyngeal catarrh (acute and chronic).	
Ozæna.	
Catarrhal inflammation of the Eustachian tube.	
Other unhealthy throat states.	
Traumatic	Injuries inflicted from the direction of the external meatus. Injuries inflicted from the direction of the Eustachian tube. Puncture or rupture of the membrana tympani. Direct injury to the tympanic cavity. Injuries inflicted with the Eustachian catheter. Foreign bodies: (1) approaching from the Eustachian tube; (2) approaching from the external meatus. Injections through the Eustachian tube.
New growths	Generally associated with external ear discharges. Polypi. Papillomatous growths. Sebaceous tumours. Cystic tumours.
Hygienic	Nearly all those causes operating in the instance of the external meatus.

Glancing at both tables, we perceive that with few exceptions we are confronted with conditions or diseased states that either owe their existence to, or are associated with, special microbes. Gout, only very indirectly, through its tendency to produce dermal swelling, pasty secretion in the meatus, ulceration associated with hyperostosis, or the inflammatory blood state attendant upon its presence, shown often in the appearance of the throat, can give rise to suppurative catarrh. Eczema does so very rarely, and only when, as in the case of psoriasis, there is neglect, and dead epithelial particles or those of dried pus are allowed, together with cerumen, to collect in the canal and create ulceration, when we cannot avoid meeting either the parasitic fungus or bacterial life. In some other instances those conditions which I have enumerated as causing chronic suppurative catarrh are more truthfully the consequences of it—for instance, polypi, papillomatous growths, cystic and sebaceous tumours. A pretty example of the latter growth occupying the cavity of the tympanum is in my "Practitioner's Handbook," taken from my "Atlas of Diseases of the Tympanum," the tympanum being shown before and after removal of the growth. In this instance there was a polypus removed from the meatus, attending upon chronic discharge; on its removal, the tumour was discovered (as shown in the drawing) occupying the cavity of the tympanum beyond. It was removed with the crocodile lever ring forceps. (Fig. 1.) Sea-bathing is an undoubted source of chronic suppurative catarrh—a result, however, rather more frequently found in those who are fond of diving. The strong salt water enters the meatus, or through the nostrils into the Eustachian tube, giving rise to a catarrh of the middle ear, which occasionally leads to suppuration and perforation of the membrana tympani. Now, with these exceptions, every other instance is no doubt due to the original accidental or deliberate introduction of germs into the auditory bloodvessels or lymph channels, or to their secondary presence as a consequence of acute infective diseases or infective germ affections of the throat and nose — which organs, indeed, for clinical purposes must be looked on as part of the organ of hearing. I said "deliberately" introduced, for I look on the deliberate use of oil and unctuous substances in the external meatus, liable to rancid change and consequent fermentative action, as a certain means of introduction, in the same manner that unquestionably the use of dirty specula, undisinfected Eustachian catheters or bougies, and uncleansed otoscope ends carry infection. In the Atlas (and Handbook) is a drawing of a membrane covered with a yellow layer of an amalgam of oil and hardened epithelium, which occurred in a person from whose meatus I removed a quantity of epithelial débris and some cerumen; on removal of this scale the membrane was seen in part eroded, and is represented in the companion drawing. But if we do not introduce, we may most successfully imprison and retain. We do this by means of plugs of cotton wool, heat-producing, moisture-absorbing, pus-collecting, incubating pellets for broods of embryonic germs. We do it, likewise, when we blow insoluble powders into the ear or direct patients to do so for themselves, creating artificial bone manures for the auditory passages. We do it also when we syringe the ear carelessly and improperly, and at times too forcibly, with perchance impure water, hosing our little bacterial mobs out of sight into the intricate shelterings of the ear passages. We do it, again, when we use old, decomposing, fungus-generating lotions for purposes of medication; our remedy is as bad as the disease we are endeavouring to aid rather than arrest by the dissemination of new colonies of germs on a fertile and welcoming soil. And let me, in passing, protest against all forcible syringing in ear surgery, with the two exceptions of foreign bodies and impacted cerumen, when it frequently becomes a necessity. Recently I saw a gentleman into whose tympanum an eminent ear specialist (now dead) drove accidentally the point of an ear syringe in forcibly syringing the ear. He has had a chronic ear discharge ever since. If there be two rules in the whole range of aural therapeutics more valuable to remember than any other, they are these: (1) Avoid forcible syringing of ears, always being sure what it is that is being syringed, not driving a forcible stream on an inoffensive drum head to endeavour to batter it in. (2) Always, save in rare exceptions, which only prove the rule, trust to syringing for the removal of foreign bodies. Many a permanently impaired tympanum would have been saved violation had this rule been observed, and the necessity for treating chronic suppurative catarrh would have been obviated. We should not then see the tympanic membrane dragged away in mistake for a foreign body, and irreparable mischief inflicted on the organ of hearing. I have elsewhere recorded the removal of a grain of shot, which I took with some cerumen from the ear passage, leaving the membrane perfect and the hearing intact, and which had remained harmless in its snug retreat from childhood to adult age.[3]

FIG. 1.



(To be concluded.)

[3] Practitioner's Handbook of Diseases of the Ear and Naso-pharynx, p. 12.

ON THE

DISPOSAL OF THE SPUTA IN PHTHISIS.

BY ARTHUR HILL HASSALL, M.D., LOND.,
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THE bacillary origin of phthisis is now very generally acknowledged. A proof of such origin is furnished by inoculation, but it has been recently still further established, especially by the experiments of Cornet, that the disease—at all events in certain animals, as guinea-pigs—may be produced simply by the inhalation of the dried dust of the sputa. Now the fact that the disease may be communicated in this manner is of immense practical importance, for while, on the one hand, it proves the extreme danger of such a mode of introduction, on the other it indicates the measures and precautions which should be adopted to reduce that danger to a minimum. It is, of course, where the expectoration most abounds, and where it is most liable to become dried, that the danger is greatest—as in the rooms, hotels, and hospitals occupied by consumptives. Again, it has been experimentally shown that but little if any danger is to be apprehended from the inhalation of the breath of the phthisical, or of the air of streets, towns and promenades frequented by them. In the first place, the expired air has been found to be free from bacilli; and, in the second, although the sputa may be expectorated on the ground &c., the dried particles or dust of these quickly become dispersed and scattered through the air to such an extent as to be rendered practically harmless. Moist and freshly expectorated sputa consist in great part of water, and when dried become not only very light but very friable, so as to be easily broken up into dust and so scattered about by slight currents of air. The rate of drying depends not only on the temperature and state of humidity of the air, but also on the nature of the material on which the sputa fall. Thus, if they come into contact with any absorbent material, such as carpets and pocket-handkerchiefs, they quickly dry in consequence of the withdrawal of the water by capillary attraction. Hence, the great danger which arises from expectorating into handkerchiefs.

In the preceding facts, then, we are furnished with the data on which a number of precautionary measures should be based. On no account should patients expectorate on to floors, carpets, and, above all, into handkerchiefs. It is indeed from these last that the greatest danger is to be apprehended. It should be made an invariable habit by day, and, as far as practical, even at night, to expectorate into spittoons. These receptacles should be always partially filled with water so as to avoid the drying of the sputa, and they should be emptied and thoroughly cleansed daily by scalding with boiling water. It is not necessary that the water should contain a disinfectant, but, if any be used, it should be one which would be really effective and free from all disagreeable odour, such as that possessed by carbolic acid. Perhaps the best germicide which can be employed is a strong solution of perchloride of mercury; this should be freely added to the water in the spittoon each morning before use. The use of cloths (as is the common practice) to wipe out these receptacles should be strictly prohibited, as these cloths might, like the handkerchiefs, become a source of danger.

The question now arises, in what way should the contents of these spittoons be disposed of? Pouring them into waterclosets, whence they would be conveyed into cesspits or sewers, might possibly in certain cases be attended with danger, as still more probably would the throwing them on to the soil. The safest and surest plan is the complete destruction of the sputa, and this object may be accomplished in the following manner. A covered vessel, preferably of glass, of suitable size and provided with a rod, should be partially filled with a strong solution of perchloride of mercury, and into this vessel the contents of the spittoons should be daily emptied, until it becomes necessary to dispose of the accumulated but now harmless sputa, which may then safely be done by means of the closet or the soil. The use of a stirrer is necessary in order to break up the sputa and allow of the effective action of the germicide. In very advanced cases, and under some circumstances, it may not be possible to do away altogether with the use of pocket-handkerchiefs—unless, indeed, some substitute of little or no value (such as a specially prepared paper) were devised in place of them, so as to allow of its being destroyed as soon as it has been used.

Next, we may consider how the linen worn by phthisical patients should be dealt with. It should be kept entirely apart, and on no account mixed with the linen of other people; and even when made into a separate bundle it should not be sent to an ordinary laundry to be washed, as in the latter case it would sure to become mixed with the other linen The infected linen should be washed, with certain precautions, either at home or in a special laundry. The handkerchief—the use of which should as far as possible be altogether dispensed with—should never be allowed to become dry, but should be at once wetted, even before being conveyed to the laundry, and no handkerchief should be in use longer than a day.

Then the rooms, particularly the bedrooms occupied by consumptive patients, require special attention. Carpets, curtains, rugs, &c., should be dispensed with as far as practicable, the sheets and night clothing frequently changed, and the rooms themselves thoroughly purified, the floors and walls being well and frequently cleaned and dusted. In case of a death from phthisis, the bedroom should be treated in very much the same manner as in the case of a contagious malady. In hotels and hospitals occupied by consumptives, precautions on the same lines and principles should be adopted, but on a more extensive and complete scale.

In hospitals for consumption some few regulations have been more or less in operation for some time, but in the case of the hotels little or nothing, as a rule, has been done. In the furnishing of these hospitals great simplicity should be aimed at; all carpets, curtains, rugs, mats, &c., should as far as possible be done away with, and where mats or other such articles are required, they should be made of some non-absorbent material, as indiarubber or floor-cloth. The floors of all rooms, wards, and corridors should be frequently cleansed, and the walls, even to the ceilings, thoroughly dusted at least twice a week, and as far as practicable in the absence of the patients. Not only should each patient be provided with a spittoon for his own special use, but other spittoons should be placed in the corridors, public rooms, closets, and all other suitable places; these should be partly filled with water, as has been already pointed out, and never, as is so often the case, with sand, sawdust, ashes, and such absorbent substances. These receptacles should be emptied daily, thoroughly cleansed, and disinfected in the manner before described. Expectorating on the floors, into the grates, or on to the garden walls and public promenades, should be strictly prohibited under severe penalties. Again, every hospital should have its own well-appointed laundry, or one under its control. To this all the linen of the patients should be sent and specially dealt with. For the reception of the soiled linen, each patient should be provided with a closed box—not a basket,—and the contents of this should be conveyed daily in covered receptacles to the laundry. Further, each patient should be required to give up his handkerchiefs every morning, and of course be supplied with one or more clean ones. With respect to the use of disinfectants in the laundry these are scarcely necessary, as the boiling, steaming, and washing processes are sufficient.

In the case of health resorts much frequented by consumptive patients, some regulations analogous to the foregoing are also needed. Dr. Goltz, one of the German medical men practising in San Remo, has drawn up a series of rules applicable to hotels frequented by consumptives. The number of phthisical patients is, however, so small in many of the hotels as in such cases to render any general and systematic precautions unnecessary; those really required in individual cases may be left to be dealt with by the medical man in attendance.

Another matter requiring serious consideration, but into which I do not now propose to enter, is the possibility of the communication of tubercular disease through the medium of the sputa to certain domestic animals, such as fowls, cows, sheep, and pigs, and from these again to the human subject. Such a result may occur where those animals are kept in the grounds belonging to a hospital for consumption, the soil and herbage being liable to be contaminated with expectoration.

Zürcherstrasse, Lucerne.

SPECIMENS OF BILHARZIA AFFECTING THE URINARY ORGANS.

By REGINALD HARRISON, F.R.C.S.,
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BY the kindness of Dr. Mackie of Alexandria I am able to give a short description of some specimens of bilharzia as seen affecting the urinary apparatus which I have recently examined. I am also indebted to Professor A. Barron for his valuable assistance in preparing the specimens for the microscope and in describing them.

1. Bladder received in 1887. Half of this was sent to the Owens College museum, and sections cut by Dr. Harris showed many ova lying in the bloodvessels, and also carcinoma, with well-marked cell-nest formation (epithelioma). No history of case received.

2. Bladder and kidneys of a fellah, aged forty, from Damanhour, who died March 6th, 1888. This patient came for relief to the Deaconesses' Hospital thinking he was suffering from stone in the bladder. On sounding, no stone was detected, but a large hard tumour was felt above the pubes, and the interior of the bladder seemed to be covered with small growths. The urine, which was bloody and purulent, contained ova of bilharzia in the sediment. The tumour was supposed to be either entirely due to bilharzia or partly cancerous. Perineal urethrotomy was performed, and the mass explored with the finger, but it was found impracticable to interfere with it. Microscopic examination showed it to consist of a glandular-celled carcinoma rich in cell columns and acini, poor in stroma, no cell nests, many ova, with much thickening of muscular coat and dilatation of lymphatics.

3. Bladder of a fellah, aged twenty-five, from Damanhour, who died Jan. 25th, 1888. The patient was admitted with a large, irregularly shaped phosphatic calculus, complicated with bilharzia. Supra-pubic lithotomy was performed on Jan. 13th. The cause of death was pelvic cellulitis. Examination of the bladder showed thickening of all the coats, much inflammatory effusion in mucosa and submucosa, immense number of bilharzia ova in patches, in mucosa and submucosa especially. In parts the ova were so numerous and so closely packed that the bladder tissue lying between the strings of ova was with difficulty to be distinguished.

4. Pieces of bilharzia growth taken from the bladder of a fellah during a lateral lithotomy performed on March 6th, 1888. The stone was composed of phosphates. Microscopical examination showed these growths to be partly inflammatory tissue, but mainly of cancerous formation, having the structure of a squamous-celled carcinoma (epithelioma). Well-marked cell-nest formation; few ova.

5. Bladder of a fellah, aged thirty, who died March 15th, 1888, from septicæmia following a lateral lithotomy performed on March 5th. At the post-mortem examination, an opening one inch in diameter with an ulcerated margin was found in the posterior wall of the bladder. The viscus was very thin around it. About three ounces of pus were found in the cellular tissue behind the bladder. Microscopical examination showed squamous-celled carcinoma, much cell-nest formation, with very few ova in the sections examined.

It will be observed that in four of these five cases of bilharzia cancer was present as a complication. Prolonged investigations in places where such cases are common, relative to the frequency with which bilharzia, cancer, and calculus coexist, and the order of their appearance, would be of very great value in reference to certain points in the natural history and pathology of these three affections. Whether the parasite merely plays the part of an irritant in a person in some way predisposed to generate cancer, or whether the relationship between the parasite and the proliferous tissue growths which we are accustomed to speak of as cancer is even still more connected and intimate, are points amongst others which naturally become prominent in connexion even with such brief records as I am now presenting.

Liverpool.

OWENS COLLEGE, MANCHESTER.—Mr. T. N. Kelynack has been awarded the Dumville Surgical Prize, of the value of £20.

A CASE OF

HYSTERO-EPILEPSY IN THE MALE; RIGHT HEMIPLEGIA, ACCOMPANIED WITH ANALGESIA AND ANÆSTHESIA.

BY FRANCIS R. B. BISSHOPP, M.A., M.B. CANTAB.

THE extremely interesting nature of the following case must be my apology for the length of the report.

G. B——, aged twenty-seven, was first seen by me in July, 1888. He complained of "fits and paralysis of the right arm and leg," which he had suffered from for the previous three years. He was a hairdresser by trade, married, and had two children; the eldest died when four months old, from bronchitis; the surviving child had always been well, never had fits, but was "very nervous." The patient's father died of consumption, aged fifty-two; mother, aged forty-six, and two of her sisters died "in decline." The grandmother suffered from fits. One aunt died in Chatham Asylum. He had two brothers, strong and in good health. As a child he was never strong, having always been thin and pale. He suffered from the ordinary diseases of infancy and childhood, but never had fits or convulsions. He went to school till the age of fourteen; about this time he commenced to suffer from a cough, and occasionally spat up a little blood. On leaving school he was apprenticed to his trade; his cough, however, was still troublesome at times, otherwise his health was good. He married at the age of twenty-one. Two years later he had an attack of rheumatism in his right knee, and was laid up for a fortnight. He became quite well and went back to work; but owing to the cough, which had never left him, becoming much worse, accompanied by spitting of blood and matter, he was obliged to take to his bed. He went to a doctor, who told him he was "in a decline, and had only one lung." About this time he lost his child, which was a great shock to him, and also had some family trouble. He improved somewhat and was able to sit up, but shortly after this he had his first fit. There was no history of injury or venereal disease. He had always been very temperate, taking about half a pint of beer a day, and was not a smoker. The patient had his first fit in July, 1885. He suddenly fell down without any warning while undressing before going to bed. He did not hurt himself, but was unconscious all night. The doctor who saw him said that it was "an epileptic seizure." After recovering from the fit, he found that he had lost his voice and was unable to speak for a fortnight. He also had some difficulty in swallowing. He now took to his bed. In less than a week he had another fit, lasting two or three hours. The fits then recurred every day, sometimes two or three a day. In one of unusual severity, lasting all day, and in which he was very violent, on regaining consciousness he found that he had lost the use of the right arm and leg, "the arm being fixed down to the side." The fits had continued ever since, one on an average occurring every other day; for the last six months, however, they had been less frequent, and not so severe, occurring about once or twice a week. He said that he occasionally passed urine during the fits, but never fæces. He never bit his tongue, but was always very violent, requiring to be held down to prevent him injuring himself. He endeavoured to tear the bedclothes to ribbons, tried to strangle and bite himself, screamed, sobbed, and talked incoherently. After the fits set in the cough and spitting of blood stopped, but he had remained bedridden ever since. He was told by all the doctors who saw him that he would never recover the use of his side again.

The patient's condition when I first saw him was as follows. A spare man, of medium height, dark complexion, and scanty growth of hair on the face; extreme melancholic expression of countenance, which was dull and vacant. He lay on his back in a semi-recumbent position, propped up with pillows, complaining of pain over the lower part of the abdomen. Appetite bad; teeth decayed; tongue furred; bowels constipated, acting on an average once a fortnight, and then only by taking strong aperients. On examining the abdomen, the area of liver dulness was found to be normal. Spleen not to be felt. There was great tenderness and resistance to pressure in both inguinal regions, especially the right, and if made firmly caused the patient to groan and scream

out, and his facial muscles to contract as if initiating a fit. Both testes in the scrotum; extremely sensitive to slight pressure, which produced similar symptoms. Penis well formed. Heart sounds normal; no increase of cardiac dulness; action regular. Pulse 64. Chest well formed. No flattening below clavicles. There was slight impairment of resonance at the right apex, where the expiratory murmur was somewhat prolonged. No other physical signs. Urine pale and clear; acid; sp. gr. 1022; no albumen or sugar; he sometimes passed a larger quantity after the fits. Sexual desire absent. The eyelids on being closed quivered violently; pupils equal, widely dilated, and reacting both to light and accommodation; discs and fundi normal; marked retraction of the field of vision in the right eye, and slightly in the left; also retraction of colour vision for red and green, the latter more extensive, and complete achromatopsia for blue in both eyes. Hearing, smell, and taste normal on the two sides. Marked anæsthesia of pharynx. General paresis of right arm and leg. Muscles small and flabby from disuse. Complained of no pain. The arm was extended down by the side; the hand, in the shape of a cone, was slightly flexed at the wrist and metacarpal phalangeal joints, with the thumb in the palm; slightly rigid. Marked tremor evoked on raising the limb, which he could do to a limited extent, the grasp not being so strong as on the opposite side. Electric reactions normal. Patch of anæsthesia and analgesia just above the elbow-joint, extending round the limb, also over the whole of the extensor and flexor surfaces of the forearm, terminating at the wrist-joint. No impairment of muscular sense; limb colder than opposite side. The leg could be drawn up slightly at will, which caused the whole extremity to be thrown into violent tremor. Marked extension of foot, and pointing of toes. Resistance to forcible extension and flexion of limb fairly good; electric reactions normal; knee-jerks brisk; no ankle-clonus. Anæsthesia and analgesia of foot, leg, and lower third of thigh; slight impairment of muscular sense. On the right side of the thorax, in the axillary line, there was a circular patch of anæsthesia and analgesia, extending over the sixth, seventh, and eighth ribs. Abdominal and cremasteric reflexes slightly exaggerated. He had perfect use of the left arm and leg. Tendon reflexes increased. Tremor present. Marked dropped foot. No anæsthesia or analgesia. No impairment of muscular sense. No paralysis of face, or any cranial nerve. The mental condition of the patient was one of extreme depression, constantly being in tears. He was also very religiously inclined. He was, moreover, excitable, and easily put out of temper, and a fit would often supervene when very much vexed.

With reference to the fits which I have had an opportunity of witnessing, they were for the most part similar in their mode of onset, main characters, and duration, the final period of semi-consciousness and confusion, however, lasting longer in some than in others. Briefly, their main features were as follows. The patient, while sittfng up in bed, suddenly uttered a low moan and fell back, becoming rigid and quite unconscious. This was followed by twitching of the muscles of the right side of the face and noisy breathing; conjunctivæ quite insensitive. Both hands then violently dragged at the skin of the throat. This was succeeded by violent clonic convulsive movements of the whole of the body, the arms and legs being thrown about in every conceivable direction, and the trunk at times assuming a position of complete opisthotonos. The respiration then stopped, and, after sighing deeply two or three times, he opened his eyes, stared about him, and commenced talking incoherently, at times interrupted by violent sobs. If spoken to sharply, he recovered himself and answered rationally; otherwise he would remain in a drowsy condition. The average duration of each fit was half an hour. He never had more than three in succession. He never bit his tongue, but in one passed urine involuntarily. Pressure made in the inguinal regions or squeezing the testes was not productive of any abatement or alteration of the fit.

The condition of the patient at the present time is extremely satisfactory. He is up nearly all day, and can walk about the room, up and down stairs, and goes out. The anæsthesia and analgesia of the trunk and limbs have entirely disappeared. The hyperæsthesia of the inguinal regions and testes is much diminished. There is still marked retraction of the field of vision, and also for colour vision in the right eye and slightly in the left. The fits occur much less frequently; on an average once a month. (It is an interesting fact to note that the last fit came on in the early morning, after having had connexion with his wife during the night, the first time for three years and a half.) The appetite is good, the bowels act daily without aperients, he has put on flesh, and his whole physical and moral condition is much improved.

The treatment briefly has consisted in faradisation, massage, tonics, and good feeding, and complete isolation, as far as was possible, from the visits of all sympathising friends, accompanied by the moral treatment which is so essential in these cases to restore that control to the will which it has lost.

Remarks.—Reports of cases of this nature are very rare in this country. Dr. Savill, in the report of a most interesting case which he read before the Clinical Society in the same month, states that he was only able to find the records of four undoubted cases of hystero-epilepsy in the male from English sources. With regard to the diagnosis: the character of the fits, exhibiting as they do so typically the four stages as described by M. Charcot—viz., (1) epileptoid, (2) purposive, (3) convulsive, and (4) delirious,—the anæsthesia and analgesia, the hysterogenic zones, the contraction of the field of vision, and the achromatopsia, together with the result of the treatment employed, as shown by the present satisfactory state of the patient, clearly point to the nature of the case. The hysterical aphasia (which is described by Charcot under the term "mutism") which followed the first fit, the character of the hemiplegia which developed itself in a latter fit of much greater severity, unaccompanied by facial paralysis, and the absence of any disease of the heart or vessels, or optic neuritis, or affection of the other cranial nerves, put on one side the question of an organic lesion in the brain. The fact that the right side only was affected, without any spasm, rigidity, wasting of the muscles or change in their electric reactions, and the peculiar character of the anæsthesia and analgesia, accompanied by the other well-marked "stigmata," negatived any disease of the cord or its membranes. The history of this man emphasises the extreme importance of arriving at a correct diagnosis in cases of a similar nature—a diagnosis which at once obviates the evil results of a hopeless prognosis, and does away with the faintest suggestion on the part of the relatives or friends that the patient is a malingerer. Finally, as far as I am aware, this is the only case recorded in this country of hystero-epilepsy in the male, accompanied by hemiplegia, which was not preceded by a history of traumatism.

Tunbridge Wells.

NOTE ON THE

THERAPEUTIC ACTION OF SENNA PODS.

BY A. W. MACFARLANE, M.D.,
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MY friend Dr. Thomas Keith mentioned to me, eighteen months ago, the efficacy of senna pods as a laxative in cases of obstinate constipation. A day or two afterwards I prescribed them in a case which seemed suitable for their administration, and was so agreeably impressed with their effects that, notwithstanding I had discarded the use of senna in most of its forms for several years, I resolved to test the utility of the pods in various cases. As it was early apparent that their properties differed vastly from those of senna leaves, I endeavoured, while estimating their value, to ascertain wherein the disparity of their action lay.

Let me briefly premise that an infusion of senna leaves has a characteristic and nauseous taste and odour; that it acts as a mild acrid or drastic purgative, exciting increased peristaltic movements in the small intestines, which, hurrying the contents quickly through the colon and rectum, cause the evacuation of watery stools in four or five hours; inducing concurrently, in many instances, hyperæmia of the pelvic bloodvessels, which excites or aggravates hæmorrhoidal and menstrual losses. Its administration is so commonly attended by griping, tenesmus, and flatulence, that it is seldom prescribed except in conjunction with a carminative, these disagreeable symptoms being more marked if the leaves are long infused, to obviate which the time fixed for the preparation of the infusion in the British Pharmacopœia is

half an hour. In nursing women the active principles of senna leaves are partially excreted through the milk, giving rise to griping and purging in the infant. On account of the irritating effects, the infusion of senna has long been discarded in cases in which there is any tendency to congestion of the gastro-intestinal canal, to miscarriage, and to hæmorrhoids &c.; and in consequence of its drastic and depressing properties it has been deemed an unsuitable remedy in neurasthenic conditions.

The products of the senna plant, as imported into this country, consist of leaves, stalks, pods, and flowers, with certain other extraneous materials; these are sent to the great prisons to be picked, and the leaves are carefully selected and returned to the druggists, while the other parts are rejected. Senna pods have been so little used in Great Britain, that no reference is made to their medicinal properties in any of the text-books on materia medica or therapeutics with which I am acquainted. They are thus described by the late Dr. Scoresby-Jackson in his Note-book on Materia Medica:—"Legumes, pendulous, flat, slightly enlarged over the seeds, upper margins a little curved, brown, containing from five to eight seeds." The only references to their therapeutical employment which have come under my notice are as follows. 1. By Dr. James, in the New Universal English Dispensatory, second edition, 1752, page 252: "The follicules or fruit of the sena (*sic*) tree purge in a less degree than the leaves." 2. By Dr. Pereira in his work on the Elements of Materia Medica and Therapeutics, third edition, 1853, vol. ii., part 2, page 1870: "The legumes are much milder in their operation than the leaflets." 3. By F. A. Flückiger and D. Hanbury, in the Pharmacographia, 1874, page 191: "The Arabian and the mediæval physicians of Europe used both the pods and the leaves—preferring, however, the former. ..... The pods (folliculi sennæ) are still employed in some countries." It is thus apparent that the dissimilarity of action which exists in the leaves and pods, which I recognised, was long ago appreciated. In connexion with the last quotation, I may mention that I have been informed that the pods which are preserved in the sorting process in London are exported to the European continent, and that they are rarely purchased by chemists in this country. As a matter of fact, the majority of chemists do not keep them in stock, and there is at times difficulty in procuring them.

An infusion of senna pods is almost free from taste and smell; certainly it is devoid of the characteristic odour and flavour of "senna." It appears to increase activity in the muscular movements of the whole gastro-intestinal canal, acting quite as much on the colon and rectum as upon the small intestine. It is slower in its action than an infusion of the leaves, but equally certain; an ordinary dose produces without fail one motion, seldom more, of soft consistence, in from eight to ten hours, and without exciting any congestion of the pelvic vessels, or increasing or aggravating hæmorrhoidal or menstrual discharges. It is, in short, a reliable evacuant, free from irritating properties such as cause griping and flatulence; and, if the experience of one case is worthy of mention, it does not appear to be excreted through the milk in the nursing mother, for in one such patient the child was unaffected by its use. Administered regularly for several nights in cases of intestinal torpor, it cleans the tongue, increases the appetite and digestion, and promotes natural evacuation of the bowels, so that the quantity taken requires to be decreased, and eventually it can be dispensed with. The cases in which I have found it most serviceable are those depending upon impaired muscular movements, from defective innervation, usually associated with flatulence and intestinal discomfort. It has also proved useful in cases of hæmorrhoids, and in constipation in children, as well as in the aged. Like all purgative medicines, the infusion acts better in some persons than in others, and also in the same person at different times; but, after a fairly extended experience of its use, I have not been disappointed in its utility in any one case, nor have I been annoyed by any untoward effects. I am not sanguine enough to hope that it will meet the exigencies of every case of constipation, but that it is a real addition to our remedies I cannot doubt. It has afforded me better results than any other medicine I have yet used, exceeding in efficacy cascara sagrada; while its freedom from disagreeable taste is a strong point in its favour.

I think I have written enough to indicate that the properties of the pods differ very considerably from those of the leaves. I have, therefore, only to add that I know of no condition which contraindicates their use, being as harmless as castor oil. The dose for an adult is from six to twelve pods; for the young and very aged, from three to six. They are best infused in a claret-glassful of cold water for six or eight hours. Mr. John Borland, F.C.S., late examiner in the Pharmaceutical Society of Great Britain, of the firm of Rankin and Borland, chemists, Kilmarnock, has kindly prepared for me a plain and simple liquid extract of the pods, the dose being from half a drachm to a drachm in a wine-glassful of cold water at bedtime. It has little taste, and it is exceedingly certain in its action, while it possesses the advantage of always being ready for use.

Manchester-square, W.

A CASE OF

STRANGULATED OVARIAN HERNIA IN AN INFANT AGED THREE MONTHS.

By BILTON POLLARD, B.S., F.R.C.S.,

ASSISTANT SURGEON TO UNIVERSITY COLLEGE HOSPITAL; SURGEON TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

MOST surgeons must have observed, in both infants and adults, herniæ which they have considered to be ovarian. In January, 1882, Dr. Barnes read a paper on Hernia of the Ovary before the Medical and Chirurgical Society, and in the eighteenth volume of the St. Bartholomew's Hospital Reports there is a paper on the same subject by Mr. Langton. Since the introduction of the modern operation for the radical cure of herniæ, irreducible prolapsed ovaries have occasionally been met with, but I am not aware of a case in which the ovary was found strangulated. In the following case the hernial sac contained an ovary and the free end of the Fallopian tube; they were both tightly strangulated and inflamed.

E. R——, a female child aged three months, was admitted into the North-Eastern Hospital for Children, under my care, on March 30th, 1889. When the child was two months old, its mother noticed a lump in its groin; the lump used to disappear for a time and then return; its size was variable. On March 19th an inguinal truss was ordered at the hospital. On March 26th the truss was applied by the instrument maker; the hernia was then supposed to have been reduced. On the 27th the truss was removed in order to wash the child, and then an irreducible swelling was noticed in the right groin. On the 29th the patient was seen at the hospital by the house surgeon, who found the hernia irreducible. The child had vomited a few times since the 27th, but its bowels had been moved on the morning of the 30th. When admitted on the latter date, there was a swelling of a rather larger size than a pigeon's egg situated over the right external abdominal ring, and distending the upper part of the right labium majus; the skin over it was red and hot; the swelling felt elastic, and indistinct fluctuation could be made out; it was irreducible, gave a dull note on percussion, and altogether simulated an abscess. I suggested that it might be a strangulated ovarian hernia, for the history of the case pointed to its being a hernia of something from the abdominal cavity, and the child's symptoms during the past three days were such as to exclude a strangulated intestinal hernia. Soon after admission the child was placed under the influence of chloroform, and an incision one inch and a half long was made through the superficial tissues, which were all œdematous and matted together. On opening the sac some turbid blood-stained fluid escaped. The sac contained an ovary and the fimbriated extremity of the Fallopian tube; they were both greatly swollen, black or grey in colour, and in places coated with lymph. It was not thought advisable to return them into the abdomen, so the sac and its contents were mopped over with a 1 in 500 solution of perchloride of mercury, the pedicle was drawn down, transfixed, and tied in two pieces with silk ligatures, and the pedicle was returned within the abdomen. The neck of the sac was tied with a silk ligature, and the body of the sac was excised. In order to reduce the stump of the sac, which was much thickened by inflammatory exudation within the abdominal wall, the external abdominal ring had to be slightly enlarged. The pillars of the ring were then sutured with silk. The wound was made as dry as possible, and the skin

brought together with silk sutures. No provision was made for drainage. A dressing of boracic-acid powder and sal-alembroth gauze and wool was applied. The temperature reached 101·2° F. on the day after the operation; it had fallen to 98·6° by the following day; on the fifth day after the operation the temperature rose to 101·8° without any obvious cause; with these exceptions the temperature kept about normal. The dressing was changed daily, as it either got shifted or soiled. The wound healed by first intention. The stitches were removed on the seventh day, and the child was discharged on the eighteenth day after the operation.

I was in some doubt as to how this case should be dealt with. The ovary and Fallopian tube might have been reduced if the abdominal ring had been very freely enlarged. They were, however, almost black from extravasated blood, and were coated with lymph, but, as the inflammation was the result of strangulation, and quite independent of septic causes, they might doubtless have been returned into the abdomen without giving rise to a spreading peritonitis. On the other hand, they would probably have become adherent to the pelvic wall or some viscus, and might have given rise to subsequent trouble. And, further, the ovary appeared to be so much damaged by extravasation of blood into its substance as to render it of little or no physiological importance. After removal the ovary was found full of blood, which occupied several distinct cavities. The treatment adopted was most probably the best.

Harley-street, W.

CASE OF STRYCHNINE POISONING; RECOVERY.

By HERBERT C. W. JONES, M.B. CANTAB., M.R.C.S.

ON June 10th I was called at 11.5 A.M. to see A. B——, a night watchman, formerly a soldier, who was said to have been drinking heavily for a week, and to have "done something to himself" that morning. Going at once, I found the patient, a muscular man about thirty years of age, lying on his back in bed. Within a few seconds of my arrival he was seized with a tetanic convulsion, opisthotonos being well marked, the arms flexed across the chest in a condition of rigid tremor, with the hands clenched and the legs extended. His face was livid and congested, and his features were fixed in a spasmodic grin. At the onset of the paroxysm he gave an agonised shriek, which ceased as the respiratory muscles became involved in the spasm. This paroxysm lasted nearly two minutes, and during its continuance the pupils were considerably dilated. Suspecting strychnine poisoning, I questioned him (his mind in the interval being quite clear), and he confessed to having swallowed two threepenny packets of Battle's vermin-killer at 10.45 that morning. After an interval of about three minutes, during which muscular twitchings occurred almost continuously, another violent paroxysm supervened, followed rapidly by others, all of the same character, more than one of which threatened to be fatal from asphyxia. Finding that the slightest touch at once brought on an attack, I judged that any attempt to wash out the stomach or produce emesis would very likely prove fatal, and having by this time (11.30 A.M.) procured chloral hydrate, twenty grains dissolved in water were injected subcutaneously during an attack. At midday the attacks were rather less frequent, but still very severe, so another twenty grains of chloral were injected hypodermically during an attack. The intervals between the successive attacks now became about ten minutes, and at 1 P.M. ten grains more of chloral were injected. Between 1 and 2 o'clock he had only three paroxysms. He complained of great thirst throughout, but the attempt to swallow brought on an attack. Towards 3 P.M., soon after a paroxysm, he swallowed some water and was given twenty grains of chloral by the mouth. After this he had no more attacks, but the muscular twitchings still continued until about 7 P.M. Soon after 3 P.M. he retched several times, but only brought up a little frothy mucus. From 7 P.M. to 8 P.M. he slept, and woke feeling very weak and sore in the arms and back. From this time he rapidly recovered, and was able to go out in three days. He tells me that on Sunday, June 9th, he swallowed the contents of two threepenny packets of the vermin-killer, but vomited immediately, and felt no ill effects. On Monday, the 10th, he breakfasted at 4 A.M., and bought two threepenny packets of the same vermin-killer at a chemist's, who confirms his statement. He was in the habit of getting it there to destroy rats on the premises where he is employed. He then drank some ale and spirits, went home, and, emptying the packets into a glass of water, swallowed them, leaving none in the glass. This was at 10.45 A.M. He almost immediately felt faint and went to bed, the convulsions beginning in about five minutes. He did not vomit. The threepenny packet of this vermin-killer contains about fourteen grains, and, according to Dr. Letheby's analysis, 23 per cent. of this is strychnine; therefore, assuming the man's account to be true (which I see no reason for doubting), he must have taken about six grains of strychnine in the two packets. Whether the alcohol he had taken in any way modified the action of the poison I will not venture to say, but the case appears to me interesting, as confirming the fact that in chlorate hydrate we possess a reliable antidote to strychnine.

Chelsea.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

A CASE OF LEPROSY; LARYNGEAL OBSTRUCTION; TRACHEOTOMY; DEATH; NECROPSY.

(Under the care of Dr. FREDERICK TAYLOR and the late Dr. WOOLDRIDGE.)

MUCH attention has been given to the subject of leprosy during the last few weeks, more especially to the question of its contagiousness. We have fully discussed this point in our columns,[1] as also the various causes which have led to this unusual interest in the disease. We do not therefore propose to reconsider these points, but to put before our readers the account of a case which was under skilled observation in England. As this observation extended over many years, it would not be possible to give the full history of the case, but the following account will be found interesting, as the disease is rare in this country, and post-mortem records of it are not frequently to be obtained. The disease appears to have developed in a boy, the son of healthy European parents, which is very unusual, and to have commenced at an earlier age than is commonly found, the first symptoms generally appearing about the age of puberty, or in early adult life. The course of the disease presents nothing of a remarkable character, excepting for the pyrexia, until the onset of the laryngeal symptoms. On the occurrence of these complications Dr. Vandyke Carter says:[2] "There is one occasion of death which is in its way also peculiar, and is only mentioned by the Norwegian physicians. I mean that entered as 'Laryngitis and Suffocation,' which had occasioned fifteen casualties (out of 300); and on inquiry during my late visit to Bergen, I ascertained that this event was sometimes a very sudden one in leprosy; but whether the laryngeal disease causing suffocation is always leprous, or is sometimes strumous remained uncertain. The possibility of sudden asphyxia in lepers is well known to surgeons in India." That a large number of cases of leprosy die from phthisis is well known, and Dr. Beavan N. Rake has exhibited at the Pathological Society[3] specimens from a case of mingled tubercular and anæsthetic leprosy, demonstrating the occasional presence of tubercular disease of the larynx in leprosy. There is usually no fever;[4] Dr. Vandyke Carter[5] also adds: "From this table

[1] THE LANCET, vol. i., 1889, p. 1309.
[2] Report on Leprosy to the India Office, 1874, p. 143.
[3] Path. Soc. Trans., 1886, p. 544.
[4] Fagge's Practice of Medicine.
[5] Op. cit., p. 143.

may be learnt that form of fever which is peculiar to leprosy, but which is seldom or never of itself fatal; the so-called catarrhal fever of Bergen belongs to the same category; and these should, I think, be associated here with the frequent 'erysipelas' as an appanage of leprosy." In Dr. Taylor's case there were attacks of inflammation resembling erysipelas, whilst death ensued in consequence of pyæmia. Accompanying Dr. Carter's report there are illustrations of the disease in various stages, and the New Sydenham Society's Atlas gives two portraits of patients suffering from it. The subjoined notes were taken by Messrs. Aymard, Lewis, and Kitching.

R. S——, bill-poster, aged twenty, was admitted on Nov. 21st, 1886, under the care of Dr. F. Taylor. His father died of sunstroke in India; mother alive and well; a brother and sister alive and healthy. The patient cannot recollect having had any previous disease.

History of present complaint.—The patient went to India when two months old with his father and mother; his father died there. He was sent home by the Government when six years old, and placed in the Duke of York's School at Chelsea. Here his arms and legs came out in blue blotches. He has no recollection when his face became affected. The blotches turned into raised lumps, and were only painful when they ulcerated. He was not treated at the school. The patient then went to Ireland and afterwards to Folkestone, where he was treated by a doctor, who three years ago sent him to this hospital. The report of his case cannot be found, but he was under Dr. Moxon. From what the patient says, his face had not broken out then, but his legs were in much the same state as they are now.

Present condition.—Hair light colour, inclined to be bald in places. Alopecia of eyebrows. Eyelashes scanty. No hair on chin or upper lip. Over the front of the face the skin is raised, nodular, and tubercular-looking, and appears thickened. On the front of the chest, buttocks, and front of the thighs there are numerous red spots, round in some places, raised in others, which do not fade on pressure. The abdomen and arms are covered with brown spots, which are not so raised, nor so deeply coloured, as over the former situations. There are numerous scars, the seat of former ulcers; these are mostly anæsthetic, and are placed on the extensor surfaces of the arms and legs. There are also scabbed ulcers on the extensor surfaces of the arms, legs, palmar surfaces of hands, right buttock, back of neck, over the right eyebrow, lower portion of the nose and nasal apertures, upper and lower lip, chin, and glans penis. The skin over the lower two-thirds of both tibiæ and the back of the right hand is tense, red, shining, œdematous, and desquamating. There are ulcers of large size over the right olecranon and front and outer sides of both legs. The largest ulcers are situated in the lower third of the legs. They are devoid of granulations on the surface, which is smooth and pale. The edges are slightly raised and bluish white in colour. The sore on the penis is the same in character as the other scabbed ulcers; the patient first noticed it after slight difficulty in micturition. A white line extends laterally from the umbilicus. The spots on the front of the chest and abdomen are limited to the space enclosed by two lines drawn vertically downwards from each nipple to about the centre of Poupart's ligament. The heart's apex beats in the nipple line about an inch below it; cardiac dulness normal. There is a systolic bruit at the apex and over the pulmonary area. Bruit de diable over the veins at the root of the neck. The pulse is small, regular, compressible. The lips are bluish white, thickened, and scabbed over. The tongue is ulcerated at the tip, and covered at the sides and front with thick yellowish material and heaped-up epithelium; papillæ enlarged. What remains of each tonsil is covered with whitish tubercular masses. The soft palate is hyperæmic in patches and ulcerated. Uvula thick and scarred. The patient breathes through his mouth, as his nasal apertures are blocked with scabs and crusts. The breath is very foul. The epiglottis shows some loss of substance, with growth on the anterior surface. Ary-epiglottidean fold thickened. No growth on the vocal cords, but they appear somewhat thickened. The patient's voice was normal till two days before admission, when it became as it is now, a husky whisper. Chest sounds normal. Bowels regular. Urine normal. Splenic dulness normal.

Nov. 10th.—Dr. Taylor saw under the microscope what were, no doubt, leprosy bacilli. The specimen was taken from pus from the patient's finger, and stained by Ehrlich's method. It was looked at under a $\frac{1}{12}$ oil immersion. Similar bacilli have been seen in the patient's sputum. The bacilli are seen in small clusters stained red; these clusters are usually round; each bacillus is a small rod-shaped body, its breadth being about one-fourth of its length.

Dec. 11th.—The patient thinks that he is improving. His voice is still husky and hoarse. The face is quite sensitive, with the exception of two scars on the right cheek; over these spots sensation is impaired; sensation does not return gradually as the healthy tissue is approached, but abruptly on the margin of the scar. There is anæsthesia over the dorsal surface of the little and ring fingers of the left hand and on the ulnar side of the middle finger. Sensation exists over the other digits; it is lost over the whole of the dorsum of the hand, with the exception of the metacarpal bone of the thumb. Sensation is entirely absent on the ulnar surface of the wrist for about two inches and a half, gradually improving as the radial side is approached, until at length it becomes normal on that side. On the palm of the hand and the palmar surface of the fingers sensation is unimpaired. There is anæsthesia on the flexor surface of the wrist for about two inches, improving as the elbow is neared. Around the wrist (extensor and flexor) there is a good deal of scar tissue and tubercular elevations; over these sensation is absent, and it is also more marked on the ulnar than on the radial side of the forearm and hand. From the elbow upwards sensation is unimpaired. Anæsthesia exists over the dorsal surface of the right little finger and ulnar side of the ring finger; the others are normal. There is anæsthesia over the back of the hand and the back of the wrist, but it is not so marked or so high up as on the left arm; individual patches on the extensor surface have quite lost sensation. On the palmar surface of the hand sensation is normal or slightly hyperæsthetic.

Feb. 8th, 1887.—Anæsthesia is marked in a few places on both legs, but not so definite as that of the arms, nor confined to any particular region. The patient left to-day.

He was readmitted into Dr. Taylor's ward, under the care of the late Dr. Wooldridge, on July 30th, 1888. The patient appeared to be well nourished and intelligent. He looked quite forty years old. His swollen face and heavy forehead gave him an "old" but hardly a "leonine" expression. The forehead, cheeks, chin, and nose were covered by large, dark, dry scabs, which were very thick and rough. Between these the skin was dry, shiny, and almost polished; this was most marked on the forehead. The lips were swollen, thick, and nodular. The nose was flattened and broad. The eyelids were swollen, but the eyes were apparently normal. On the right side of the nose and upper lip were larger scabby masses, apparently of long standing. Some tubercles were present on the upper eyelids, and several well-marked ones in the occipital region. The front and back of the trunk were covered and mottled by patches, which had a brownish tint, looking like old "specific" stains. This was also well marked on the arms and wrists. The left hand was swollen and red, but not hot. The fingers were swollen, and the skin was tense, polished, and marked in places by large scabs; but there were no open ulcers. The terminal phalanx of the little finger was absent, having been eaten away by the disease. Over the left olecranon was an ulcer (one inch and a half by one inch), base flattened, non-adherent, edge not raised, and its border surrounded by a dark band of congestion; the base showed no granulations. Three inches below this was a large scar. The right upper limb presented two ulcers on the elbow and some scabs on the wrist, in appearance like those on the left elbow. The palmar surface of the hand was normal, but swollen. The dorsum of the hand was red and congested, and covered by large cicatrices. The whole hand was swollen, the fingers very much so, and they had the appearance of being shortened. The ball of each was occupied by a dry scab, and the nails seemed placed close to the distal end of the second phalanx, the third phalanx being apparently destroyed to a large extent. In the case of the little finger the whole end of the finger was absent. Both legs were much swollen and œdematous, tense, and brawny. The feet were swollen, and the skin tense and shiny. There appeared to be no loss of bone. There were a large number of ulcers of various sizes and shapes, but all presenting the same appearance as those described on the arms and elbows; one large

one was over the left inner malleolus, and another over the inner aspect of the left great toe; one was over the peroneal region, and several over both calves. On the outer and inner aspect of the right shin, about three inches above the ankle and passing round to the posterior aspect of the limb, was a large ulcer. Heart sounds normal. Voice very husky—in fact, little better than a whisper. The larynx, as seen with the laryngoscope, was ulcerated and deformed. No cough or expectoration. The epiglottis was wrinkled up and swollen.

July 31st.—At 2 A.M. the patient woke and found some difficulty in his breathing. He had some water and tea, but this did no good. Later on he began to get dusky, and then blue; he could only breathe in a sitting posture. At 10 A.M. he was given a dose of senega and ammonia. He seemed in great distress. Air entered the chest badly; both sides were full of loud râles and bubblings. Above the clavicle and sternum the tissues were sucked in very much, and expiration as well as inspiration was very laboured. There was also profuse perspiration. The patient was every few minutes troubled by a hoarse, muffled cough, and had by 10 A.M. expectorated half a porringer of yellow, slightly frothy serum, with a little mucus and pus (?), but no blood. He was ordered a steam kettle, and at 12 P.M. an alkaline inhalation in a spray every half-hour, and two leeches, one on each side of the larynx. The latter abstracted a good deal of blood, and one wound bled profusely. This appeared to ease the patient considerably, but by the afternoon he had orthopnœa and attacks of coughing, which shook and disturbed him very much. The face was still dusky, but no longer blue and livid. Later on the treatment was changed by substituting a tannic acid inhalation for the alkaline one.

Aug. 1st.—In the evening Dr. Wooldridge saw the patient, and then he was worse, with very laboured breathing, and becoming exhausted. Tracheotomy was therefore performed at 6 P.M. by the house surgeon, Mr. Hawkins. Some relief was obtained thereby, but his breathing continued very rapid, he was occasionally delirious, and his temperature ranged between 101° and 103·5°.

3rd.—The patient's right and left hands are very swollen, red, hot, and painful. The redness disappears on pressure, and has no well-defined border. Spirit lotion was applied.

7th.—The patient's breathing in the night was not so good. The thighs are now red and swollen, as the hands have been. A crop of pemphigus-like pustules are making their appearance. These are present also on the scrotum, and there is a large sloughy-looking scabby sore on the left side of the glans penis, which has presented itself during the last two or three days.

8th.—At about 4 P.M. the patient became excited, wished to make his will and to leave large sums to the nurses; he then refused food, and afterwards became comatose for about a quarter of an hour. The pulse was good all the time. From this condition, however, he recovered. He has become very despondent. The legs, thighs, and arms are very swollen and tense. He slept soundly after a morphia injection. Takes his food well.

10th.—The patient was very restless and excited during the night, trying to get out of bed and wanting to remove the tube. He vomited once.

12th.—The patient remained quiet, but not comatose, all day, waking up to drink when roused, and yet losing the painful restlessness with its accompanying suicidal tendencies. Attempts to find a bacillus at this time failed entirely, though blood, pus, and fluid from the tubercles and ulcers were examined.

14th.—The temperature has fallen below normal; pulse weak and rapid. Spots are now coming out all over the back and shoulders, and some hæmorrhagic-looking sores about the mouth are again suppurating. There is very marking wasting of the upper arms and thighs. There is a pustular eruption breaking out over the chest and abdomen, the pustules being discrete; the glans penis is very bad, nearly the whole surface being one sloughy mass, though the destruction proceeds but slowly. The scrotum also has very bad sores over it, and there is an eczematous discharge.

16th.—The arms and legs are desquamating in large thick stiffened scales. Temperature subnormal; breathing rapid; air enters everywhere; a few râles heard here and there, and loud rhonchi also when he coughs; but otherwise, and with the exception of the masses of blood-stained mucus and fibrinous-looking material, the lungs seem healthy.

17th.—About 3 A.M. the right parotid region became uncomfortable, causing the patient to touch and rub it, and later on it became swollen considerably and very tender. This morning (10 A.M.) there was a tense swelling all over the parotid region, and extending back to the mastoid process; it is not hot or red; on the contrary, the most prominent part is bleached. About 12 P.M., without any other change, except that he became much weaker and quite unconscious, the patient died quietly.

From the day of admission until Aug. 12th the temperature was high, mostly between 101° and 103·5°. On Aug. 13th it was subnormal, and was mostly between 95° and 96° until his death. Cod-liver oil, iron, and iodide of potassium were given on his first admission; and on the second occasion quinine and sedatives, such as opium, morphia, chloral, and potassium bromide, were mostly employed, with brandy and fluid nourishment.

Necropsy, four hours after death.—Rigor mortis well marked. All the glands that were opened were found suppurating—viz., femoral, inguinal, iliac, axillary on both sides, and the right parotid were all full of pus. The subcutaneous tissue of both arms was, wherever cuts were made into it, suppurating. Both ulnar nerves (about three inches of each) were removed from behind the internal condyles, and both seemed to be enlarged, though there was some difference of opinion on this point. The larynx was covered by small ulcers, and the cords were clogged and almost fixed by secretions, though there seemed to be no ulcers on the true cords. The tonsils and pillars of the fauces and back of the tongue were covered by ulcers. Epiglottis short, thickened, rolled transversely, and ulcerated. Trachea below the wound clogged by blood-stained fibroid material. The wound was itself healthy. Œsophagus normal, but pale and flabby. Aorta quite healthy. Lungs rather compressed. A few adhesions of right pleura. Ten ounces of fluid were found in the left chest and thirteen in the right The lungs themselves were healthy. In the pericardium a few adhesions existed over the auricles. Heart flabby, but healthy; no disease of valves. Stomach small and contracted. Intestines healthy. The pancreas was large, and almost as hard as cartilage, but otherwise looked healthy. Weight of liver 95 oz., fatty, and containing a small yellow nodular growth. Gall-bladder full of very viscid mucoid bile. Bladder and rectum normal. The right testicle was hard, and would not tease out well; it was marked by small yellowish spots about one-eighth of an inch in diameter, evidently abscesses on the point of breaking down. In the left the globus major was as hard as cartilage and enlarged; the testis was small and hard on section, and seemed made up solely of fibrous tissue. Kidneys large, but healthy. Brain healthy.

Dr. Washbourn exhibited at the Pathological Society on May 21st, 1889, specimens from this case showing the bacilli of leprosy.

EVELINA HOSPITAL FOR CHILDREN.

A CASE OF UMBILICAL PYÆMIA, WITH DISINTEGRATION OF THE STERNUM, LEFT STERNO-CLAVICULAR JOINT, AND SEVERAL COSTAL CARTILAGES, IN AN INFANT.

(Under the care of Mr. R. CLEMENT LUCAS.)

THIS case is an example of chronic pyæmia in an unhealthy child, and is remarkable for the large size of the abscess of the chest wall and the extensive destruction of the bones and cartilages found within the abscess. Mr. Lucas draws attention, in his remarks, to the necessity of a more antiseptic method of treatment of the umbilical cord in children. The report of the case is from notes taken by Mr. L. A. Bidwell, registrar.

D. B——, aged four weeks, was admitted on April 20th, 1889. She was supposed to have been a seven-months child. There was a strong specific history, and the infant was suffering from snuffles and a papular rash on the body, buttocks, and arms. There was swelling in the middle line on the front of the chest about the size of a small Tangerine orange. It moved with respiration, and had a marked expansile impulse when the child cried. There were no heart or breath sounds to be heard on auscultation over the tumour. The skin covering it was red and thin, and the

superficial veins were enlarged. The swelling had been noticed for fourteen days. There was no sign of disease in the heart and lungs. As this was evidently an abscess and on the point of bursting, an aspirating needle was introduced, and an ounce of foul pus was obtained. This was followed by rather intense dyspnœa, the anterior wall of the abscess being sucked in during inspiration. On examining the abscess, it was found that nearly the whole of the gladiolus was absent, and that parts of the cartilages of the third, fourth, and fifth ribs of both sides were wanting. The next day there was some oozing from the puncture made by the aspirator, and an antiseptic dressing was applied. The child also had some dyspnœa and difficulty in swallowing. The temperature was subnormal the whole time, and the child gradually sank, dying on April 25th.

A necropsy was made the same day. The lungs were found only partially expanded, but not broncho-pneumonic, and they contained no abscess. The heart showed a widely open foramen ovale, and the septum ventriculorum presented a large perforation. On opening the abdomen by cutting through the umbilicus, the cicatrix of which was quite sound, pus welled out of the still patent umbilical vein. The whole of this vein was much dilated and its walls thickened, the contents being pus. The prolongation of the umbilical vein to the right lobe of the liver was also filled with pus, but there was a septum shutting off the ductus venosus from the inferior vena cava. There were no distinct abscesses in the liver. The sterno-clavicular joint of the left side was disorganised, and from this spread downwards an abscess cavity about the size of a large walnut. The only traces of the gladiolus that remained were three ossicles lying loose in the abscess cavity; one of these was globular, about the size of a buckshot; the other two were disc-shaped, and larger. The rounded ends of rib cartilages of the second, third, fourth, and fifth were seen lying free in the abscess cavity. The floor of the abscess was covered with granulations. The posterior surface was adherent to the parietal layer of the pericardium and to both pleuræ. The right sterno-clavicular joint was healthy, but the lower part of the manubrium seemed to have been destroyed. There were no other secondary abscesses found.

Remarks by Mr. CLEMENT LUCAS.—This case is reported to draw attention to the importance of keeping the umbilicus disinfected and aseptic after detachment of the cord in newly born infants. I am too far removed from midwifery to know what is now the general custom adopted; but, from what I gather, the time-honoured swealt rag is still the only disinfectant used among the poorer classes. It is quite time to insist that the wounded, and soon to become gangrenous, stump of the umbilical cord should be treated with the same care and attention as other surgical injuries. That death not unfrequently takes place from suppuration of the umbilical vein in the lower animals as well as in man is pretty generally known; but the precautions to be adopted to prevent such an occurrence have probably been delayed owing to the natural tenacity of life of the infant and the accustomed security felt by the practitioner that nature will do all that is necessary. Now, I would emphatically protest against this negligence of a past age, and strongly recommend that iodoform or some other reliable solid antiseptic powder be used above the umbilicus till the cord is detached and the umbilicus soundly healed. The little patient was admitted under my care on account of the swelling in front of the sternum, which fluctuated and was influenced by the respiratory movements, yielding impulse on coughing or crying. This proved to be the conical point of a large abscess, which probably commenced in the sterno-clavicular joint as a pyæmic synovitis, and, burrowing down, had absorbed the sternum and detached the adjacent costal cartilages. The child was born prematurely, and, further, was degenerate from hereditary syphilis, so that it became a ready prey to bacterial infection of the umbilicus. It will be noticed that the post-mortem examination revealed that the umbilical vein within the abdomen was filled with pus, and this was no doubt the primary source whence the fetid and fatal abscess took origin.

MEDICAL MAGISTRATE.—Councillor W. J. Beatty, L.R.C.P.E., L.F.P.S.Glas., youngest son of Dr. Beatty of Seaham Harbour, has been appointed by the Lord Chancellor a Justice of the Peace for the borough of Stockton-on-Tees.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Spread of Tuberculosis by Contagion.—Tuberculosis in Fowl.

A MEETING of the section of State Medicine was held on April 26th.

Dr. MACDOWEL COSGRAVE read a paper on the Spread of Tubercular Diseases by Contagion. The position of tubercular diseases had recently changed, and their contagiousness had become widely recognised. The discovery of the tubercle bacillus by Koch in 1882, and the answers received by the Collection Investigation Committee in 1884, contributed to this. More recently Dr. Cornet's important experiments with dust from wards and other places where tubercular cases were treated, also experiments by Fischer, Schill, and others, had shown that contagion is most easily caused by dried and desiccated sputa. Professor Bang and Dr. Sims Woodhead had shown how milk from cows with tubercular udders contains bacteria, and so may be a source of infection. Probably no true heredity had place in tuberculosis. Apart from intra-uterine infection the children of consumptives were in danger, because (*a*) they had deficient resisting powers; (*b*) because they were liable to contagion from their parents. Contagion might be caused as follows. 1. By autoinfection. 2. From animals. The meat and milk of cows suffering from tuberculosis should not be used for food; the 400 dairy yards in Dublin should be removed outside the city. Dairy cows and meat should be regularly inspected. 3. From person to person, either directly or through fomites.

Sir CHARLES CAMERON read a paper on Tuberculosis in Fowl. He had from time to time received dead fowl for the purpose of analysis. They were individuals from large numbers that had died very rapidly, and, as it was believed, from poisoning, malicious or accidental. No poison was found, but, on the contrary, death was due to tuberculosis. The lungs, liver, and spleen were enlarged and much affected. In one case, where about fifty hens had died within a period of three or four months, the deaths commenced to take place some weeks after the arrival of a consumptive patient in the house near which the hens were kept. There was little doubt that the sputa of patients affected with phthisis were devoured by fowl, and no doubt, too, the inspissated sputum, in the form of dust, found its way into their lungs. Evidence was adduced to show that fowl affected with tubercle sometimes—when consumed as food—induced the disease in man. The bacilli in the fowl, though closely resembling the bacillus tuberculosis of man, were decidedly smaller.

The PRESIDENT observed that both papers, dealing as they did with topics of the greatest interest to physicians, showed what revolution in opinion had in the last ten years taken place with regard to the nature of pulmonary consumption and tubercular disease. Thus, Cornet denied hereditary predisposition, and declared that nobody had immunity from tubercle who received the contagious particle in the way in which it was active; that it was never conveyed by the breath (a proposition which was not so generally acknowledged as the others); that it was not conveyed in a moist state; that expectoration was the medium of conveying the virus; and that it must be dried to acquire the active condition. Hence his prophylactic advice that tubercular patients should not be treated in hospitals with other patients, and that they should not be allowed to expectorate on the floor or into handkerchiefs, but into spittoons, which, if emptied and cleaned with water, prevented danger.—Dr. FRAZER said monkeys were also liable to be infected, and to such a degree that often the whole stock in the Zoological Gardens had been killed off. Perhaps they got it from the sputa in the house. No doubt a certain amount of predisposition was needful to receive the germs. At the same time, it was startling to find that dogs got the disease, and they were not predisposed to it. As regards treatment, it was remarkable that if cows gave the disease to human beings, as was now contended, the old Irish remedy used to be to sleep in a cowshed. As yet there was no positive proof that any disinfectant destroyed bacteria.—The REGISTRAR-GENERAL (Dr. Grimshaw) thought it would be unwise to lay aside the notion of predisposing causes. In

his opinion there were predisposing causes in respect of nearly all diseases. Certain persons had a greater capacity for the reception of certain diseases than others, owing to their constitution and innate peculiarities; but that predisposition was the main element in contracting disease was, he thought, doubtful. Besides the predisposing cause of heredity, another very important element entered into the question of the spread of tubercular disease—namely, the condition of the soil. Many years ago Dr. Buchanan showed that in particular districts, with a particular stratification of soil, phthisis was prevalent, and that in certain towns in which the subsoil had been drained the rate of mortality from consumption was materially reduced. It would not do, therefore, to ignore the consideration as to the condition of the subsoil, because of believing phthisis to be an infective disease. The difference of capacity of various domestic animals for the reception of tubercle might be explained on similar grounds. He had not the smallest doubt that consumption was increasing, and prevailed to a greater extent than ever, taking the country all over, while other diseases had been more effectively cut down.—Dr. DOYLE considered the term "infection" rather than that of "contagion" was the more correct in describing the propagation of tuberculosis. The bacteria were found in the lower stratum of the sputum, showing they were inclined to lie low, and were heavier than other constituents of the sputum, and therefore, as regards the communication of the disease by breath, he did not think bacteria would be found floating about the atmosphere.—Dr. COSGRAVE and Sir C. CAMERON replied.

In reply to Sir Charles Cameron, it was announced that the President and Secretary of the Public Health Section had been selected to represent the Academy of Medicine on the General Committee of the International Sanitary Congress, to be held in 1891.

Dr. EDGAR FLINN read a paper on the Compulsory Registration of Plumbers, which was discussed by Sir C. Cameron and Drs. Doyle and Cosgrave.

Arterio-sclerosis.—Cancer of the Liver Secondary to true Cancer of the Rectum.—Ulcer of the Stomach.—Ununited Fracture of the Patella.

Meetings of the Pathological Section were held on May 1st and 3rd.

Microscopic sections from the Tumour of the Pons exhibited at the meeting of March 22nd were shown by the President of the section.

Dr. M'KEE read a paper on the Distribution of Bacilli in Leprosy. He showed numerous microscopic specimens, some prepared by Professor Unna, and some by himself. He explained Unna's views, and pointed out the reasons which induced him to differ from them.

Dr. LENTAIGNE exhibited a Tumour of the Larynx.

Dr. NIXON exhibited the Viscera of a young married woman aged thirty-two, who was admitted into hospital suffering from extreme gastric irritability, accompanied by hepatic tenderness. There was a history of most intemperate habits. Her parents were also addicted to the use of alcohol. During the course of the case attacks of diarrhœa set in; the patient became drowsy and delirious; and she died of progressive asthenia about a month after her admission. The urine was examined, but it contained no trace of albumen. The necropsy disclosed a very widespread arterial degeneration, affecting mainly the arteries at the base of the brain and in the spinal cord. The coronary arteries were likewise affected by the atheromatous process, and in connexion with this degeneration localised fatty changes were observed in the myocardium. The aortic valves presented evidences of inflammatory thickening, principally starting from the corpus Arantii; they were, however, competent. The interior of the entire of the arch of the aorta and the thoracic aorta was in a condition of atheromatous change. In the abdomen the spleen was found small and dense from increase of trabeculæ. The pancreas was in a condition of marked induration. The kidneys were in an advanced condition of cirrhotic change, the branches of the renal arteries being markedly thickened, and presenting open gaping mouths on section. Dr. Nixon, in presenting the case as a contribution to the pathology of chronic alcoholism, drew attention to the three conditions under which arterio-sclerosis was met with. (1) Associated with coincident renal cirrhosis; (2) independent of it; and (3) when the widespread arterial degeneration was secondary to the changes in kidney induced by granular disease of those organs.—Dr. M'WEENY said under one microscope was a small artery with thickened walls from the pancreas. In the spinal cord there was a peculiar granular alteration of the grey matter. A small artery with thickened walls could be distinctly seen running in the midst of the grey matter. The white matter showed a superabundance of connective tissue between the nerve tubes. Under another microscope a section of the kidney showed shrinkage of the capillary tufts and alteration of the glomeruli into masses of fibrous tissue.

Dr. JOSEPH REDMOND showed Specimens and Microscopic Sections from the following case:—A man aged thirty-six, a cooper by trade, was admitted into the Mater Misericordiæ Hospital suffering from well-marked symptoms of cancer of the liver. His abdomen was enormously enlarged, and bulged abruptly forwards below the ribs. The liver was hard, greatly enlarged, irregular on the surface from the presence of nodules, some of which were depressed in the centre, and extended downwards to midway between the umbilicus and pubes. As he stated that he suffered from piles, an examination of the rectum showed the presence there of malignant disease. The patient grew gradually weaker, and died on Nov. 24th, 1888. At the necropsy, which was made by Dr. M'Weeny, the liver was found to be enormously enlarged, and weighed, on removal from the body, 20 lb. 12 oz. Scattered everywhere, both over the surface and through the substance of the gland, were whitish-yellow nodules, varying in size from a pin's head to that of an orange. On examining the rectum a hard mass was found close to the anus, almost completely encircling the gut, and blocking up its lumen; above this the walls of the rectum were considerably and irregularly thickened, and were connected to the sacrum by a tough mass of neoplasm. The omentum, diaphragm, and pleura were found to be more or less studded over with flat whitish masses. Microscopic sections of the liver showed masses of carcinoma assuming an encephaloid type. Sections of the tumour in the rectum showed no trace of glandular structure &c., and the growth must be pronounced a scirrhous cancer.—Dr. M'WEENY said an inspection of the edges of the primary disease in the rectum showed it to be unquestionably scirrhus, and, therefore, they must conclude the disease in the other organ to be cancerous also. The alveolar arrangement was not generally distinct, but could be traced in places. Another microscope showed the disease of the rectum presenting isolated masses of epithelial cells embedded in an abundant connective tissue stroma, which stamped the disease as scirrhus.

Dr. JOSEPH REDMOND exhibited a Stomach showing perforation of both the anterior and posterior walls. The specimen was removed from the body of a patient aged twenty-six, who had been admitted into the Mater Misericordiæ Hospital on Feb. 4th, 1889, presenting all the usual symptoms of perforation of the stomach, which untoward event had occurred three days prior to admission to hospital. The patient's condition improved so much under treatment that great hopes of his ultimate recovery were entertained; but symptoms which unmistakably pointed to the occurrence of a second perforation developed on Feb. 6th, and the patient died of collapse in about twelve hours. The necropsy showed that death was due to acute purulent peritonitis, following double perforation of the wall of the stomach, the opening in the anterior wall being the older, as evidenced by the presence of lymph, which glued it to the under surface of the liver. The opening in the posterior wall had no such appearance. Both ulcers were situate exactly opposite each other, and somewhat nearer the lesser than the greater curvature, midway between the cardiac and pyloric ends of the stomach.—Dr. C. NIXON said they could always tell whether there had been a perforation, with escape of the contents of either the stomach or the intestines, by the nature of the effusion and of the peritonitis that was set up. If the peritonitis was set up merely from the extension of an ulcerous process in either intestine or stomach, the effused product would be a flaky lymph. But if—excluding the case of tubercular disease of the mesenteric glands—they found purulent matter in the cavity of the peritoneum, they might be certain that perforation, with an escape of the gastric or intestinal contents, had taken place. They were told that gastric ulcer depended on emboli or thrombi occurring in the vessels of the stomach; but in all the cases of gastric ulcer that he had seen the existence of thrombus or embolism was—to use a bull—conspicuous by its absence.

Dr. E. H. BENNETT presented to the meeting an example of Ununited Fracture of the Patella, which showed an exceptional arrangement of the fragments and the structures related to them in the knee-joint. He exhibited also a cast taken many years ago from the injured limb at the close of the treatment of the fracture, for which injury the man had been admitted to Sir P. Dun's Hospital. He also showed two specimens of transverse fracture united by ligamentous union and a dry preparation of ununited fracture which had been described by Professor R. W. Smith. Having referred to the account given by Mr. William Adams (Trans. Pathol. Soc. London, vol. ii.) of the modes of union by fibrous tissue, the ligamentous and the aponeurotic, Dr. Bennett said the specimen exhibited differed in its details from any of the thirty-one examples given in that account. In this specimen the upper fragment was completely concealed when the joint was opened in front by layers of fibrous and fatty tissue, which were formed by the thickened fascia, and were inserted into the margin of the femoral trochlea. The upper fragment articulated with the front of the femur by a synovial joint, which communicated by only a minute opening with the general cavity of the knee. The ligament of the patella had shortened to such a degree as to bring the apex of the lower fragment within half an inch of the tubercle of the tibia. Dr. Bennett showed also, by permission of Mr. Thomson, an example of fracture of the patella, which had been treated by suture. Subsequently the patient was admitted under Mr. Thomson's care for rupture of the bond of union with rupture of the skin, opening the knee-joint.—Dr. KNOTT said he would like to have some explanation of what appeared to him to be a rather singular condition of the fragments. The lower fragment appeared to have expanded to a size very much larger than it ought to have anatomically; but that might be explained by the inflammation that must have occurred after the original injury. He quite agreed with Dr. Bennett that the fracture was of an unexampled type.—Mr. WILLIAM THOMSON said, with regard to the specimen which he gave to Dr. Bennett, the wiring was done on the other side of the Channel. Surgeons here were entirely opposed to any such operation as wiring together the fragments of a recently-fractured patella. The section had now before them an excellent example of what might result from the partial fixity that was accomplished by wiring. The slightest trip in walking made by a patient whose patella had been wired led to a refracture and separation of all the fragments.—Dr. NIXON asked to what Dr. Bennett attributed the shrinking of the ligamentum patellæ.—Dr. BENNETT, in reply, said he could give no explanation of the shrinking. The fact that the ligament did shrink in these transverse fractures was first recorded and described by Malgaigne, his idea being that a degeneration of the fibrous tissues took place from the want of the muscle having something to do in the way of contracting. He went so far as to say that the projection forwards of the fractured face of the lower fragment was the direct result of that—that it was the direct result of the fact that the ligament was longer on the anterior face than the posterior, by reason of the degeneration, and that consequently the other ligament pulled the stronger. Whether that was true or not he could not say. In Dr. Smith's case the shrinking was comparatively small. If the patella was rendered movable by any other cause than fracture, no such shrinking occurred. With reference to Mr. Thomson's question when he (Dr. Bennett) cut down into the synovial cavity he found that the prepatellar bursa was unusually enlarged, and that the two membranes had been blended into one, so that he could not tell where each ended. The curiosity of the specimen was that the two fasciæ had inserted themselves into the cartilaginous border of the femur, and had absolutely separated the synovial sac from the rest of the cavity. He believed that must have been brought about by this, that as soon as the man was let out of hospital he began to work at his business with his cab, and an irritation of the parts resulted which caused some slight inflammatory adhesion between the fascia and the trochlea of the femur; but it was remarkable that no such thing had been noticed in any other specimen.

CHILDREN'S CONVALESCENT HOME, EASTBOURNE.—On the 19th inst. the Duchess of Albany laid the foundation stone of this home—an extension of a similar institution already in the town for adults. After the formal ceremony had been performed the Duchess was presented by children with a large number of purses of money.

Reviews and Notices of Books.

A Text-book of Pathology, Systematic and Practical. By D. J. HAMILTON, M.B., F.R.C.S.E., F.R.S.E., Professor of Pathological Anatomy, University of Aberdeen. Vol. I. London: Macmillan and Co. 1889.

THIS is a work of the widest scope, which has no counterpart in English medical literature, and can only be compared with the more extended treatises with which the continental schools have made us familiar. For although this is but the first volume of the work, it is remarkable for the exhaustive manner in which the author has dealt with his subject, with the result that he has succeeded in producing a book which is both original and comprehensive, showing how minutely he has studied the various problems that abound in pathology. The references to literature alone prove the depth and extent of his research; but the great merit of the work lies in this, that Professor Hamilton has brought to the consideration of every topic an abundance of independent and often of highly original and fruitful thought.

The opening chapters are devoted to a detailed exposition of the technique of Post-mortem Examinations and all that follows from them. Here the student will find many hints of real practical value and importance. As examples we may indicate the preference shown by the author for testing the competency of the heart valves by air instead of by water, the usual plan; his recommendation to defer an examination of the brain in every important case until it has been duly subjected to a hardening process; and his plan (modified from Pitres) of slicing the brain for thorough examination. Most useful, too, are his various injunctions as to the care in cutting and handling organs when removed from the body. After this follow chapters dealing with the preparation of museum specimens, the methods of histological examination, and the choice of a microscope, &c., so that the information given is equal in extent to that of many a single text-book. When, moreover, it is added that there is also a full exposition of bacteriological methods, it will be gathered how thoroughly the technical part of this work covers the ground. It might be objected that the consideration of these practical points is out of place in a Text-book of Pathology, but we think that the evident aim of the author has been to supply the student with as complete a guide to the whole subject as possible within the pages of a single work. By this means it is probable that the work will be available as a guide for the laboratory as well as a work of reference for the study.

Part II. deals with General Pathological Processes, and we meet on almost every page the marks of original thought and observation. Nowhere is this more obvious than in the definitions given by the author at the head of each section. There are few things more difficult than to frame a definition, and perhaps the most difficult thing of all is to define what we mean by health and disease. Exception might be taken to almost every such definition that has hitherto been framed, and even the somewhat wide statement of Professor Hamilton hardly seems to precisely meet the case. He says: "Health is that condition of structure and function of an organism which, on examination of a sufficient number of examples, we find to be the commonest." Again: "Disease is any departure from the normal standard of structure or function of any organ or tissue." These definitions have at least the merit of brevity, but obviously everything depends upon the interpretation given to the "sufficient number," and here there is room for divergent opinion. After a brief discussion of growth and development, with a glance at hypertrophy (it is to be noted that a greater limitation is put upon this condition than is mostly assigned it), the Degenerations are dealt with.

Here is included a description of caseation, and it is pointed out that where there is abundant blood-supply caseation cannot occur, the statement being made that "caseous pulmonary phthisis is a thing practically unknown in a person who suffers from regurgitant mitral disease," if the latter be primary. The important subject of Inflammation is treated at remarkable length, the chapters devoted to it containing many novel studies of the circulation, especially with reference to the behaviour of the white corpuscles. The process is described in detail as observed in vascular and non-vascular tissues, and it is stated that the sources of pus in the latter—e.g., the cornea—are two-fold: the nucleated tissues and the marginal bloodvessels. Professor Hamilton shows that the so-called branching cells of the cornea are due to the distension of the plasma spaces with effused fluid. The subject of Healing of Wounds is discussed in a most lucid manner, and the author himself has by his researches on sponge grafting made a valuable contribution to the question. The analogy of this process to the organisation of blood-clot is obvious. With the consideration of thrombosis and the regeneration of special tissues, the forms of ulceration, &c., this interesting section closes. The subject of Dropsy receives fuller treatment than is usually accorded to it, and no fewer than eight separate conditions are described as favouring its occurrence. The subject of Fever is deferred to the second volume, where it is to be dealt with under the head of "Vegetable Parasites," a clear indication of the views of the author as to its essential cause.

Part III., dealing with Diseases of the Various Tissues and Organs, opens with a chapter upon Cells, in which the process of "karyokinesis" is very succinctly described, aided by excellent reproductions of Flemming's figures. A new formation is defined as follows: "The excessive production of some tissue naturally existing in the body during fœtal or adult life, either locally where such tissue is normally present, or in some part of which it is not an actual constituent." The descriptions of the various types of Tumours are aided by a large number of original histological drawings, and the classification adopted corresponds with that most frequently employed. Tubercle, lupus, and syphilitic gummata are dealt with as "Tumours due to a Micro-organism." Several chapters are devoted to the pathology of the blood, and they include a full discussion of the moot question of the origin of its corpuscular elements, in which we note that Professor Hamilton considers that the chief source of the coloured corpuscles is in the colourless, holding that Hayem has not proved his statement that the former are derived from hæmatoblasts. It is further held that the leucocytes are of two kinds, the "leucoblasts" and the "erythroblasts"—these latter giving rise to the coloured corpuscles. The lymph glands are believed to be the primary seat of origin of leucocytes, the spleen and marrow holding a subsidiary place, and being perhaps concerned rather in the conversion of the white into red corpuscles. Anæmia, Diabetes, Rheumatism, Gout, &c., are each in turn discussed, the author showing a full acquaintance with the literature of these somewhat abstruse subjects. The Pathology of the Heart and Bloodvessels occupies several chapters, being treated with abundant reference to physiological teachings, as well as the facts gleaned from morbid anatomy. Especial attention may be directed to the chapters on Valvular Diseases and their effects, for the questions of the degrees of functional interference and the relationship to hypertrophy and dilatation have seldom been so clearly or exhaustively stated. In the chapter on Embolism, it should be noted that the accepted doctrine of the pulmonary hæmorrhagic infarction is not adopted. It is held to be a simple "apoplexy"—thus reviving an old doctrine in a new way—or rupture of capillaries by excessive blood pressure, the wedge shape being favoured by the shape of the bronchus and the air vesicles. It is shown that an artificial infarction may be produced by injecting prussian blue into the air vesicles.

The work is one which must have entailed upon its author a great expenditure of time and thought; and if from the manner in which he has treated the subject, it may seem that he has entered more into detail than is desirable in a text-book, it must be added that there is a fulness about the work which must ensure it a chief place in pathological literature. For Professor Hamilton has not been content with a superficial discussion of pathological problems; he has himself investigated anew a large number of them, throwing fresh light upon many, correcting doctrines long current about others, and altogether succeeding in opening up many paths to the investigation of future observers. It is therefore a work which is likely to be widely studied by pathologists, for, however in some respects its teachings may appear to run counter to current opinion, it is so manifestly the outcome of patient and devoted labour that its conclusions cannot fail to be received with respect, and the whole work with admiration. It is emphatically a book to be proud of, and, as said above, it will bear comparison with the kindred works that emanate from the German school.

OUR LIBRARY TABLE.

Œuvres Complètes de J. M. Charcot. Tome V.: Maladies des Poumons et du Système Vasculaire. Paris: E. Lecrosnier et Babé. 1888.—The position gained by M. Charcot as a neurologist has almost made us forget the services he has rendered to pathology and medicine generally. For many years he held the important office of Professor of Pathological Anatomy in the École de Médecine, and in this capacity his great powers of teaching and wide erudition were put to good account. Some of his earliest work was done in the department of pulmonary pathology. The publication of his collected writings has given opportunity for reminding us of this fruitful research. Thus in the volume before us we find his inaugural thesis upon Chronic Pneumonia, which is one of the best contributions that have been made to a most interesting subject. It also contains his anatomical descriptions of the lungs (which did much to simplify our knowledge of their complex structure), as well as his clear exposition of the Pneumo-konioses and the lesions of pulmonary phthisis. For these contributions alone M. Charcot deserves, we think, the gratitude of all pathologists. The present volume also contains his paper on Leucocythæmia, in which he describes the peculiar crystals in the blood that have since been known by his name. There are, besides, memoirs and papers upon embolism, thrombosis, endocarditis, &c., mostly contributions to the Anatomical Society, and many interesting facts, both clinical and anatomical, relating to diseases of the vascular system. Amongst these may be noted his account of a case of ulcerative endocarditis where the tricuspid valve was involved, with secondary pulmonary embolism. It would, however, be impossible to review in any detail the numerous and important topics contained in this volume; we must be content with bringing it under the notice of our readers in the hope that they will be induced to read for themselves the lucid descriptions and suggestive remarks upon matters of general interest by one who is an acknowledged master in medical literature and science.

De la Tarsectomie Antérieure totale et partielle dans les Cas Pathologiques. Avec deux planches gravées. Par le Dr. CHOBAUT. Paris: J. B. Baillière et Fils. 1889.—Dr. Chobaut is a pupil and an ardent admirer of M. Ollier, who placed at his disposal all his private records and specimens bearing upon this operation. Total anterior

tarsectomy consists of the removal from within their periosteal and ligamentous covering of the scaphoid, cuboid, and three cuneiform bones, with or without slices off the astragalus and os calcis and the bases of the metatarsal bones. The main purport of Dr. Chobaut's *brochure* is to prove that there are many cases which ought to be submitted to this operation rather than to amputation through the foot or at the ankle-joint. Also he shows that tarsectomy should always consist in the removal of a transverse section of the foot, not a longitudinal one. In the latter case deformity of the foot is certain to follow, due to the contraction of the cicatrix upon one or other side. For the operation to succeed, a proper selection of cases must be made, the disease must be thoroughly eradicated, the wound must be kept aseptic throughout, and the after-treatment must be carefully attended to until the function of the foot is quite restored. The method of operating recommended is Ollier's, in which four longitudinal incisions are made, one at either side of the foot and two on the dorsum. The ligamentous and periosteal sheath is then to be carefully opened without injury to the tendons, vessels, and nerves passing over the bones to be removed, and then all the diseased structures are to be eradicated. Like his master, Dr. Chobaut is a strong advocate for the use of the actual cautery in the earlier stages of tubercular disease, as well as for the destruction of tubercular granulations.

Notes on Physiology. By HENRY ASHBY, M.D. Lond. Fifth Edition. London: Longmans, Green, and Co. 1889.—This is a handy little manual, which will serve to give the first-year student a good general idea of the subject, of which he ought to acquire a very thorough knowledge, and may with advantage be used by the candidate who is about to present himself for examination, but it should not be in any way regarded as a substitute for laboratory work, nor should it be considered to give anything more than a succinct and correct *résumé* of the principal physiological facts. With this reservation it will be found very serviceable, and the successive editions through which it has passed have enabled the author to remove some errors and to rewrite other parts with much advantage. The present edition contains many new woodcuts, which are well executed.

Elements of Histology. By E. KLEIN, M.D. New and Enlarged Edition. London: Cassell and Co. 1889.—This is, perhaps, the best of all the little manuals that have been published to help the student in his arduous work. Professor Klein is acknowledged to be one of the first histologists of the present day, and has a thorough practical acquaintance with every tissue he describes, and in accordance with this he has found it requisite to make some alterations in the present edition, which show the advances that have been made in the course of the last few years. Amongst these the more important are the account of the division of the nucleus of cells, the mode of termination of nerves in epithelium, and the structure of the intestinal mucous membrane. Professor Klein adopts Rollet's views in regard to the structure of striated muscular tissue, and agrees with Kühne in regard to the mode of termination of nerves in muscle. Many illustrations have been added. The work as a whole is excellent.

Strathpeffer Spa, its Climate and Waters; with Observations, Historical, Medical, and General, descriptive of its Vicinity. By FORTESCUE FOX, M.D. Illustrated. Pp. 165. London: H. K. Lewis. 1889.—This volume was written with the double object of contributing to the better knowledge of the profession of an important health resort, and of affording to visitors some guidance in their use of the waters and information respecting the excursions and scenery of the region in which the spa is situated. Dr. Fox has given a detailed account of the climate of Strathpeffer which cannot fail to prove useful to those who have to choose a health resort for invalids, and to afford valuable directions to those who are looking out for a highland summer resort where they may enjoy themselves without living perpetually in waterproofs. Strathpeffer has two distinct classes of mineral waters—cold sulphur and chalybeate. Of the former there are three springs, the analyses of which are given, and which vary in strength, the strongest standing nearly at the head of that class in Great Britain. Dr. Fox has devoted a chapter to the medicinal properties of the waters and the class of cases in which they are found useful. Fifteen illustrative cases are given, but as the book is intended not only for the edification of the profession, but for the general reader, they might with propriety have been omitted. The season at Strathpeffer extends from May to October, and a good account is given of the conditions of spa life there. The excursions are well laid out, and bring to notice a most picturesque country, well deserving a visit from the hale and strong who are equal to good long walks, and who wish to spend two or three weeks pleasantly in accumulating a store of health in anticipation of the wear and tear of future work.

Bournemouth as a Health Resort. By A. KINSEY-MORGAN. With illustrations. Pp. 98. London: Simpkin, Marshall, and Co. 1889.—The object of this work is to bring forward the just claims of Bournemouth as a health resort, and these seem to be considerable, not merely from the point of view of climate, but also from the careful attention paid to general sanitation. The water-supply is said to be good and the drainage satisfactory, the arrangements for the removal and destruction of the town's refuse seem to be judicious, and bye-laws have been passed for the regulation of dairies and milkshops, slaughterhouses, public carriages, and for the prevention of nuisances. These conditions, if duly attended to, should entitle Bournemouth to rank high among the English health resorts. The book affords much useful information respecting the climate and the class of cases in which it is found beneficial. We are disposed, however, to think that the author is not quite fair in his remarks on the foreign health resorts. Bournemouth is undoubtedly an advantageous resort in many cases, but we are scarcely prepared to admit that it is fitted to supersede all the continental watering places. If a second edition of the book is called for, the author would do well to add a section indicating those cases in which a residence at Bournemouth might be deemed undesirable; a good index would also increase its value.

Analytical Records.

CAMISOLE'S CHAMPAGNE (TRÈS SEC).

(CAMISOLE & CIE., ÉPERNAY. SOLE IMPORTERS, CARSWELL & CO., 32A, PICCADILLY.)

THIS is a good sound dry champagne, of excellent flavour. Our analysis gave alcohol by volume, 12·58 per cent.; dry extract, 3·75 per cent.; and ash, 0·095 per cent. The ash was rich in iron, and was, indeed, quite brown. The wine may safely be commended.

ST. DIEGO BALFONTAIN.

(N. P. SANDIFORD & SON, MANCHESTER.)

This is a full-bodied and generous wine of the Burgundy class. It contains 15·45 per cent. by volume of alcohol, equal to 27·1 of proof spirit; 2·72 of extract dried at 100° C., and 0·255 ash. In flavour as well as chemical composition it compares favourably with many of the well-known wines of France.

FRAME FOOD.

(THE FRAME FOOD COMPANY, LD., LOMBARD-ROAD, BATTERSEA.)

A preparation of wheat-bran of great interest and high dietetic value. The sample examined by us contained a

large proportion of ash, rich in phosphates; much dextrine, but little starch, and much albuminoid. It dissolves well in water, and appears well adapted for addition to starchy foods, which will thereby be rendered richer in flesh-forming and mineral elements. The appended analysis by Prof. Percy Frankland, which we have partially verified, gives—ash, 10·69; phosphoric acid, 3·68; potash, 4·24; albuminoid, 21·4; sugar, dextrine, and starch, 47·9 per cent. We are inclined to regard the article as an important contribution to scientific food-supply.

BLATCHLEY'S BREAD AND BISCUITS FOR INVALIDS.
(E. BLATCHLEY, 167, OXFORD-STREET.)

The bread contains a definite proportion of added gluten, and the biscuits some flavouring matter in addition—almond, cocoa-nut, ginger, &c. They are, of course, intended for use in cases of diabetes where a partial return to starch is permitted, and, as they are very well made, they are well adapted for the purpose.

KOLA-NUT BREAD.
(THOMAS MICHELHILL, 75, CLERK-STREET, EDINBURGH.)

The virtues of the kola nut, of which so much has been written, are in this patent article introduced into ordinary wheaten bread. The bread so made has a peculiar rich taste, and microscopical examination shows that its name describes it correctly.

DAHL'S DYSPEPSIA CAKES.
(DAHL'S AGENCY, 41, EASTCHEAP, LONDON.)

We noticed these cakes some time ago, but the present seems to be a new form of the staple article. The sample now before us is a brown powder, resembling bran in taste. Under the microscope some cells of wheat starch are detected, but not many. The advantages and disadvantages of the original preparation seem to remain unchanged.

ORANGE CHAMPAGNE (NON-ALCOHOLIC).
(THE PURE WATER COMPANY, QUEEN'S-ROAD, BATTERSEA PARK.)

This beverage is so very well prepared that, without the aid of chemical analysis or personal experience, it would be difficult to believe it was non-alcoholic. It is delicately flavoured, and not too sweet, and has a peculiar fulness or body that suggests sparkling wine. All advocates of temperance should hail it as a formidable rival to their great enemy.

SACKER'S ANTISEPTIC TABLETS (15 GRAINS).
(W. E. SACKER, 79, FENCHURCH-STREET.)

These tablets are made from a somewhat complex mixture, in which borax, benzoic and salicylic acids, and eucalyptol are readily detected. They are intended for definite medical use, and each tablet may be dissolved in two quarts of water, preferably with the addition of a little glycerine.

New Inventions.

NEW FORM OF SPONGE-HOLDER.

THE ordinary form of sponge-holder, as sold by the instrument makers, is not reliable, as the collar which moves up and down on branches of the holder very often slips down while in use, and sometimes at the most awkward times. Having experienced this failing, I had a screw collar made on mine, which travelled on a thread cut

on branches of the holder. This I found to work well for a time, but the thread on which the collar worked soon wore away, and the instrument degenerated into the older form. The illustration represents a reliable form of sponge-holder, the sliding collar, or rather disc, being made to embrace the four branches separately, which effectually prevents feathering. On the disc being pushed up so as to make the branches approximate sufficiently to embrace the sponge closely, the ring at the base of the instrument is turned to the right, so as to bring the projecting pin into one of the slots cut in the cannula (bayonet-joint principle), which fixes the disc above, and will not allow it to slide down, and so release the hold of the sponge. This holder will be found on trial trustworthy, and can be safely used by dentists, and also for the toilet of the peritoneum, without any fear of leaving the sponge in the abdominal cavity. I have found it a great improvement on the older form, and it is sold at a moderate price by the makers, the Argyle Rubber Company, Gordon-street, Glasgow.

ALEXANDER DUKE, F.K.Q.C.P.I.,
Ex Assistant-Master to the Rotunda, and Gynæcologist to Dr. Steevens' Hospital, Dublin.

A GUARDED CAPILLARY TROCAR FOR SUPRA-PUBIC PUNCTURE OF THE BLADDER.

THE accompanying woodcut illustrates a guarded capillary trocar which Messrs. Arnold of West Smithfield have lately made for me. The immediate purpose for which I had it made was the supra-pubic evacuation of the contents of the bladder in cases of retention. The ordinary appliance used for this little operation is some form of aspirator. But there is no possible reason for the employment of that rather cumbersome piece of apparatus except the fact that no simple trocar adapted to the purpose has hitherto been obtainable. Now, my instrument has at least the advantage of simplicity. After the hollow trocar has been introduced into the bladder, the guarding cannula is slipped down over

its point, and fixed in position by an arrangement of the bayonet-joint kind. Thus the chance—a remote one, it is true—of wounding the posterior wall of the bladder is excluded; for it must not be forgotten that tradition has handed it down, though I confess that personally I do not place much credit on the tale, that an ingenious operator did once succeed in perforating the rectum before the completion of the operation. The instrument can also be substituted for the needle of the aspirator in various operations of exploration or evacuation, and is obviously much more portable and easy to work with. When pus has to be dealt with, there is always a possibility of a fine trocar like this one getting blocked up. I have, therefore, had a small removable plug fitted on to the end of it, so that a wire may be passed along its entire length without the withdrawal of the instrument. Messrs. Arnold have fitted the trocar, with the necessary length of capillary indiarubber tubing, into a very neat little case, which may fairly be said to be within the holding capacity of that much abused receptacle, the waistcoat pocket.

ALEX. G. R. FOULERTON,
Resident Assistant Surgeon to St. Bartholomew's Hospital, Chatham.

NOTIFICATION OF INFECTIOUS DISEASE.

To the Editors of THE LANCET.

SIRS,—It seems to me that the matter might be most amicably arranged by adopting a method similar to that now pursued in vaccination. The private practitioner performs vaccination, giving a certificate which the parent or person in charge of the child must forward to the authorities. The public vaccinator must send the certificate himself. Now, let the private practitioner sign a certificate that the patient is suffering from an infectious disease (to wit, ————), and let the head of the family be responsible for sending this to the authorities; parochial medical officers, resident medical officers, and dispensary house-surgeons to forward these themselves. It seems to me that this is a solution of the difficulty.

I am, Sirs, yours very truly,

July 20th, 1889. ALPHA.

THE LANCET.

LONDON: SATURDAY, JULY 27, 1889.

IN this month's number of the *National Review* there is a reply by Dr. CREIGHTON to an article in the same journal of the preceding month, in which Mr. PRESTON-THOMAS drew attention to a number of statistical inaccuracies in Dr. CREIGHTON'S article on Vaccination in the "Encyclopædia Britannica," and to his generally one-sided treatment of the subject. Dr. CREIGHTON freely admits the inaccuracies complained of, but refers to them as "these small inaccuracies, omissions, approximations, or insufficiently guarded expressions," and as not "different in kind from the slips which might be detected in almost any encyclopædic statement on a subject of entangled controversy." It is not worth while here to discuss whether Dr. CREIGHTON is successful in his attempt to minimise the nature and extent of these statistical inaccuracies, the existence of which he admits, and almost seeks to justify. Bearing in mind, however, the authority with which Dr. CREIGHTON'S article is invested by its publication in the "Encyclopædia Britannica," it may be well to refer to one or two points in his recently published defence which throw additional light upon his method of dealing with this controversial subject, which he professed to treat judicially and from a neutral standpoint.

Dr. CREIGHTON accuses Mr. PRESTON-THOMAS of inaccuracy in representing him as tracing the decline of small-pox to "sanitation," and yet almost in the same sentence asserts that "better hygiene of the person, better ventilation, and more spacious residential quarters" have lessened the amount of small-pox, especially among the well-to-do. This is simply a reassertion of the favourite argument of anti-vaccinationists, that the decline of small-pox is due, not to vaccination, but to improved sanitation. No attempt is made even to mention the statistical difficulties which beset this argument. For instance, there is no attempt to explain why the undoubtedly improved sanitary condition of the country should have affected the mortality from small-pox so much more markedly than other zymotic diseases—such as measles and whooping-cough—or than all other diseases; or why this supposed effect of sanitation on small-pox should have caused such a remarkable decline in the death-rate of children, while the death-rate of adults has actually increased. Such assertions are, from a scientific point of view, to be deprecated, unless the statistical evidence on which they are based be clearly stated, and thoroughly examined from all points of view.

Dr. CREIGHTON puts forward another favourite assertion of the opponents of vaccination—the vicariousness of zymotic mortality,—calling it the "principle of equivalence, or substitution among prevalent types of disease." He says: "There is a sort of competition among existing epidemic species, so that the mortality, especially among infants and children, is caused now by one prevalent type, now by another; to use the words I took from Dr. FARR, these are displacing or substitutive factors of mortality." It would be interesting to know, but Dr. CREIGHTON does not explain, what he really means when he says, "The truth being that plague was 'displaced' by typhus and small-pox." It is matter of history that one form of zymotic disease has declined in intensity simultaneously with the increase in intensity of another zymotic disease, but Dr. CREIGHTON leaves it in doubt whether he wishes this to be regarded as cause and effect, or merely coincidence. We are, moreover, completely at a loss to understand why the assertion in the House of Commons on June 17th, 1840, that "it was well known that typhus carried off the greatest number of children, and that small-pox took off the next greatest number," is not only quoted, but endorsed with the remark, without an attempt to prove its accuracy, that it was "doubtless said as a matter of contemporary experience." Surely Dr. CREIGHTON knows that typhus is not, and, so far as is known, never has been, a fatal disease among children, and that the word typhus must have been loosely used by the member of Parliament referred to above to mean "fever," and further that by "fever" was probably meant scarlet fever, which was specially prevalent in London in 1839 and 1840. It is true that the mortality from typhus has declined in recent years almost to the same extent as small-pox; but anti-vaccinationists never allude to the fact, and neither does Dr. CREIGHTON, that typhus has declined at all ages, whereas the decline of small-pox has been mainly confined to children, while after middle age the mortality has increased. In spite of this statistical fact, of which we must presume Dr. CREIGHTON to be aware, he calls attention to the "many indications that small-pox, like typhus, has been dying out according to some law of succession or substitution among the types of disease." In support, moreover, of his theoretical principle of "equivalence or substitution," he asserts that if there had recently been less infantile diarrhœa in Leicester "there would probably have been more of contagious maladies; perhaps there would have been a certain amount of small-pox itself." We hesitate to think that Dr. CREIGHTON can mean more than that if so many infants in Leicester had not died from diarrhœa the amount of susceptible material for contagious maladies would have been larger. His words, however, especially as regards small-pox, suggest a good deal more, which is unsupported by fact or argument, and the meaning of which seems purposely left vague and unexplained.

We can only refer to one other instance, in Dr. CREIGHTON'S reply, of his method of dealing with specially controversial parts of his subject, which appears inevitably to lead him to assume the character of an anti-vaccination advocate. One of the most serious allegations of the opponents of vaccination is the attribution thereto of the increase in the recorded death-rate of infants from syphilis, more especially the remarkable and as yet unexplained increase that occurred in 1854, the first year of compulsory vaccination. Dr. CREIGHTON'S treatment of this allegation is specially characteristic of his method of argument and of his treatment of statistics. It is not surprising to be told that, writing as a pathologist on the increase of infantile syphilis, in his book published in 1887, he came to the conclusion "that the alleged cause was antecedently improbable," and

that the statistical evidence in the Scotch returns seemed "wellnigh irresistible, and did, as a matter of fact, create a strong bias against the theory of the increase being due to vaccination." In this frame of mind, strongly biassed against the theory, he proceeds to consider the remarkable increase in the recorded amount of this disease between 1853 and 1854, and "to entertain the possibility that there might be an element of cause and effect in it." It has been pointed out, and Mr. PRESTON-THOMAS called attention thereto, that whereas the increase of the disease between these two years was 42 per cent. among infants aged under one year, it was no less than 79 per cent. among persons aged upwards of one year. Dr. CREIGHTON, having examined this statement critically in order to explain the increase above the age of one year, tells us that the late Dr. SEATON, in his evidence before the Royal Commission in 1871, stated that in the first year of compulsory vaccination people not only brought their babies to be vaccinated, but also brought their elder children. He further states: "Accordingly we find that while the vaccinations increased in 1854 by 103 per cent. in infants under one, they increased by 65 per cent. in persons above one year." Now we are not told how many of these persons above one year of age were children and how many adults, but Dr. CREIGHTON assumes, on the strength of Dr. SEATON'S remark, that they were to a great extent made up of "elder children," and points, as it appears to us in a tone of ill-disguised triumph, to the marked increase in the fatality of the disease among children in the second year of life as proof that these "elder children" also suffered from vaccination. This seems to be felt by him to be sufficient reason for doubting, if not for surrendering, his pathological conclusions and his strong bias against the theory of the increase being due to vaccination. The amusing part of the matter is that he would seem to have entirely misunderstood the true import of the figures he quotes, which really tell strongly in favour of his original conclusions, and against the theory of the increase being due to vaccination. If the increase of disease were due to vaccination, it should bear a distinct relation to the increase of vaccination; and yet, taking Dr. CREIGHTON'S figures, the increase of vaccination under one year was 103 per cent. and that of the disease 42 per cent., while above the age of one year with an increase of only 65 per cent. of vaccination the increase of disease was no less than 79 per cent. This difference is quite in the opposite direction to what would have been the case if the increase of disease had been directly due to vaccination. Nor does Dr. CREIGHTON strengthen his indictment against vaccination when he goes into details of single years, for as we get farther away from the first year of life, the usual age for vaccination, the ratio of this remarkable increase is augmented. We have said that the increase in the first year of life was 42 per cent.; in the second year it was more than 200 per cent., and between the ages of two and fifteen the fatal cases were more than thirteen times as numerous in 1854 as they were in 1853. The ratio of increase between the ages of one and fifteen years is based, it is true, upon very small numbers, but while its explanation has still to be discovered, the fact that it becomes larger as the usual age for vaccination is left behind certainly points to some other cause than vaccination. We need only further notice that Dr. CREIGHTON, in his one-sided statement of the argument, does not mention that the increase of disease among persons aged upwards of fifteen years was 49 per cent., and still higher than it was among infants. Should so powerful an argument against the "theory of the increase being due to vaccination" have been omitted in a judicial statement and discussion of the theory? It is only fair to Dr. CREIGHTON to say that in the conclusion to his reply he states that he is still open to any good explanation which will prove the coincidence of the disease with vaccination not to be cause and effect, and that he still has "a strong bias towards the opinion that vaccination never communicates that infantile disease as correctly diagnosed." These assertions, however, make it all the more difficult to understand why the arguments against the theory of the opponents of vaccination were not as fully stated as are those in its favour.

In conclusion, our main complaint of Dr. CREIGHTON is—not that he has not summed up the evidence on this controversial subject, which he says did not "seem to be his business," but that, in order to enable his "readers to draw their own conclusions from the statistical evidence," he did not clear the ground by giving an equally full and correct statement of the arguments on both sides of the points at issue between the advocates and opponents of vaccination, as he declares he endeavoured to do.

OUR contemporary the *Saturday Review*—which of late has devoted several articles to an account of the medical profession, or rather the prospect of those who are so singularly rash as to enter it—has an article in last week's impression headed "Professional Tattle." In this article our contemporary moralises in characteristic fashion on certain declensions from what it calls the "old standard of etiquette, or rather of decency and honour," especially in respect of a certain undignified looseness of the tongue as to the affairs of patients in the case of doctors, and of clients in the case of lawyers. The evil is not quite so great, the author thinks, in the legal profession as in our own, but it is bad enough in both, and it is on the increase and ought to be put down. Professional opinion in both Faculties has still pretty considerable power, and it is high time that it should be exerted to remedy this great and sore evil.

We fear there is some amount of justification in our contemporary's complaint. It has been occasioned by the appearance in a much-read monthly magazine of an account of the failing health and last illness of a late leading statesman by the physician first in attendance. This article has been criticised in the columns of other lay contemporaries as very questionable in point of taste—whether on the score of disclosure of medical secrets, its suggestions of the writer's skill in prescription, or of the want of skill in other members of the same great profession. It is a healthy sign in days like these to see lay journals strike so sound a note and call for a return to "old standards of etiquette, or rather of decency and honour." It would have a disastrous and deterrent effect if every distinguished invalid had the fear that his particular symptoms and his deepest diseases were to be divulged to the world in newspaper bulletins, and to be amplified before or after his decease into a magazine article. Even undistinguished

invalids would lose half the avidity with which they send for their medical adviser if they lost the conviction that the medical profession is a quiet profession and its members are men of reticence. This conviction is at the very root of the confidence reposed in medical men, and it is this which makes them, and will make them more and more, the guides of men and women at all ages and in all conditions of life. The medical history of every family is a delicate matter, and there are some families to whom such "tattling" would be an unpardonable sin—not because of any particular sin in the family, but because of the infinite delicacy and tragedy of their medical history. There is no profession that can compare with ours in the confidence it excites if we are true to our trust. But we shall suffer grievously if we are unfaithful to this—if we are unmindful of PERCIVAL'S remark: "The familiar and confidential intercourse to which the Faculty are admitted in their professional visits should be used with discretion, and with the most scrupulous regard to fidelity and honour."

Our contemporary relies on the power of professional opinion to correct the evil of professional tattle and advertisement of all sorts. The corporations have some power, which unfortunately they are rather slow to use; but we are convinced that our true leaders are more than ever conscious of the duty of preserving the privacy and secrecy of professional life, and that they will be followed in this by all who value the reputation and dignity of medical practice. It is well worth consideration whether our Medical Associations should not do more to assert the great principles of medical etiquette and conduct. In THE LANCET of last week, page 141, our Berlin correspondent showed how ably and loftily these principles have been asserted at the recent meeting of the Congress of German Physicians at Brunswick. We commend the resolutions passed at this Congress to the consideration of the President of the approaching meeting of the British Medical Association. He would do real service to the profession in England if he could induce the Association to adopt a similar set of resolutions.

THE word "civilisation" is one of those convenient general terms which, though incapable of precise definition, nevertheless convey a sufficiently accurate meaning. By civilisation we mean a certain proficiency in the art of living, some considerable command over the forces of nature, some degree of refinement in manners, some progress in morals. It has been well said that if we compare the word "civilisation" with the word "cultivation" we easily realise how much is gained by the use of the former term, which, though more vague, is much more pregnant in meaning.

If the question be put whether or not we are civilised, few would hesitate to return an answer in the affirmative, without stopping to reflect upon what is precisely implied in such an assertion. We take it for granted that we are civilised, that civilisation is unquestionably a good thing, and that our condition is far in advance both of the uncivilised savage and of other nations, ancient and modern, whose civilisation is assumed to fall decidedly beneath our own. If we interrogate any man of average culture and intelligence upon what he means by his statement, the answer is not always very satisfactory. In proof of our advanced state and great superiority over uncivilised nations, he will usually point to our express trains, our "greyhounds of the Atlantic," our telegraphs and telephones, our great cities, and our enormous commerce. He does not realise very clearly that these things, however excellent in themselves, are results, not causes, and owe their origin to a certain intellectual and moral fibre in the nation, which is the real thing, and the strengthening of which must be the truest object of our solicitude. Still less is it commonly realised that great material prosperity, though to some extent dependent on such moral factors as industry and patience, may yet coexist and has often coexisted with a great corruption of manners, which in the end works its overthrow and destruction. Thoughtful men of all shades of opinion realise that our modern civilisation, wonderful though it be, has some terrible defects. They perceive that the raising of the average standard of comfort has not yet availed to banish the direst poverty and distress, that the cleavage of classes is as wide as ever, that the progress in education has served to make more vivid the realisation of the defects of our social system, and that the condition of large masses of the industrial classes threatens both the moral and physical well-being of society. Mr. RUSKIN has sounded many a trumpet note regarding the dangers to mind and morals which threaten to spring from the spread of modern industrialism. Like other prophets, he has often been as one crying in the wilderness; but the practical, if somewhat slow-moving, intelligence of our countrymen has gradually come to perceive that "there is something in" this view of the case, and that perhaps, after all, spacious docks, fast trains, and forests of mill chimneys are not altogether satisfying as a complete ideal of progress. Another prophetic spirit of this age (GEORGE ELIOT) expresses a similar feeling when she says: "It is difficult to keep up one's faith in a millennium within sight of this modern civilisation, which consists in 'the development of industries.' Egypt and her big calm gods seems quite as good." It would be something gained to lucidity and sense if we could persuade ourselves that material comfort is, after all, not the only (perhaps not the chief) factor in civilisation, and that it can hardly be called a factor at all unless it is generally diffused, and not restricted to limited and favoured classes.

Mr. FRANCIS GALTON has given a somewhat rude blow to the complacent self-satisfaction with which we so commonly survey our progress in civilisation in his well-known assertion that the Greeks of the age of PERICLES were as superior to us in intellect as we are to the savage. We neither affirm nor deny the truth of this assertion, which deals with a matter where precise proof is peculiarly difficult, but if the Athenians of the golden age were all that has been claimed for them, we cannot forget that their undoubtedly brilliant civilisation rested upon a foundation of slavery. Ours rests upon an industrialism which is not without its elements of degradation. Have we got rid of one great reproach to humanity by substituting another—less black, no doubt, but still real?

How far modern civilisation contains elements threatening the physique of the nation is a question which has often been discussed in these columns. While recognising great dangers, we have not seen any reason for adopting a pessimist attitude. The truth probably is that the beneficent play of

nature—the tendency of the race to revert to an original healthy type—is constantly at work, and serves to palliate the effects even of very grave errors. Happily, the inheritance of acquired defects is very feeble, and natural selection is ever endeavouring to eliminate the weak and to perpetuate the strong. Industrial progress presses with crushing weight upon individuals and even upon limited classes, but the general physique of the nation is altered very slowly, if at all.

A healthy national sentiment will shun alike the cant of progress and the cant of pessimism. We must acknowledge that our ideals of civilisation have often been very faulty, and, faulty as they are, have been only very inadequately realised. The philosophy which says or implies that it is rich and increased in goods and has need of nothing, should be as uncongenial to us as that which utters the lament, "After me the deluge!"

SMALL-POX was somewhat prevalent in Oldham during the second quarter of last year, and its diffusion into the neighbouring district of Chadderton, near the boundary of which stands the Westholme infectious hospital, belonging to the Oldham corporation, led to an allegation that this hospital, like its fellows at Fulham and West Ham, was concerned in the dissemination of the infection of small-pox in its neighbourhood through the medium of the atmosphere; and Dr. JAMES NIVEN, medical officer of health for Oldham, who has on former occasions written to show that such distribution was not likely to have been in operation on this occasion, has now prepared a report dealing with the subject. He admits that, on following Mr. POWER'S precedent in the case of Fulham, the distribution of the infection on houses in the several zones around the hospital was found to be similar to that discovered by Mr. POWER, the attacks diminishing regularly as the distance from the hospital as a centre increased. He then took two other centres; one where there was a lodging-house which had contributed towards the epidemic, the other a centre in the adjoining district of Chadderton. No similar diminution was found round the lodging-house; and although there was a distribution diminishing from centre to circumference around the other centre, yet it was admittedly not so marked as around the hospital. The matter is discussed with care in the report; and in the end Dr. NIVEN comes to the conclusion that, when all the circumstances are taken into account, the existence of antecedent cases would alone have produced much the same result as was actually experienced. In short, the case against the hospital is held to be not proved. This is an experience which we can well believe; but assuming that all the data were correctly procured by Dr. NIVEN, his results go but for little as regards the influence for harm of small-pox hospitals generally. He says the disease was not conveyed aerially, "in spite of winds and other conditions favouring." The fact is that no one has alleged that such distribution is a necessary result of small-pox hospitals under all circumstances; and it has, above all, been contended that there are probably meteorological conditions which are necessary to results such as those at Fulham. But "wind" is certainly not one of these conditions. Quite the contrary; wind in all probability prevents the infection from settling down upon an area immediately around a hospital. It tends rather to drive it away to a distance, where its influence is either destroyed or is lost beyond detection. Then, again, comes the very important question of epidemicity. Probably such distribution is limited to some definite period of an epidemic—the rise rather than the decline of the prevalence. Hence it happens that mere absence of similar results to those obtained at Fulham by no means invalidates the argument that grave risk attaches to small-pox hospitals in populous localities. It may mean no more than that the conditions necessary to such distribution did not happen to exist at the time and place under consideration.

Annotations.

"Ne quid nimis."

UNIVERSITY EDUCATION IN GREAT BRITAIN.

FOR the first time a grant has been made by the Government for the encouragement of higher education in the University Colleges of Great Britain. Money has been freely given to the Scotch, Irish, and Welsh Universities and Colleges, but with the exception of a small sum granted to the Victoria University to meet the expenses of examinations, no grants have hitherto been awarded which could either directly or indirectly benefit those Colleges which devote themselves to superior education. The £15,000 now given by the Government and voted by Parliament, has been thus allocated: to Owens College, Manchester, £1800; to University College and King's College, London, £1700 each; to Liverpool University College, £1500; to Mason College, Birmingham, the Yorkshire College, Leeds, and Nottingham University College, £1400 each; to Bristol University College, the Durham College of Science, Newcastle-on-Tyne, and Firth College, Sheffield, £1200 each. For the present year, under special circumstances, Dundee University College will receive £500. The Treasury propose that the distribution of the grant, if Parliament continue to allow it, be reviewed every five years, so that we may hope that this will become a permanent endowment for these Colleges. The grants to each College have been calculated as a fixed sum to each for the provision of the necessary professorial staff and apparatus, and an additional sum in proportion to the amount of local support and the instruction given, these being based on the total amount of local subscriptions and students' fees, rather than on the mere number of students in attendance. Not only must an elaborate return of the work done be furnished annually, but it is further provided that a periodical inspection of each College receiving State aid by a person representing the Government shall take place from time to time, to examine the buildings and laboratories and to become acquainted with the courses of instruction. Here we have a new educational departure in this beginning of an organised system of State supervision over the higher educational institutions in this country, and we expect such supervision to increase rather than diminish. £15,000 will do something to strengthen the financial position of these Colleges, but unless local endowments largely supplement the students' fees a much more considerable sum will be required to bring any satisfactory scheme of higher education within the reach of the majority of the community, as it is in Scotland and Germany, and as it should also be in this country. In adjusting the claims of the various educational bodies, medical education was not taken into consideration, and regard was only given to the work of the Colleges in arts and science.

NOTIFICATION OF INFECTIOUS DISEASE IN LONDON.

WE may assume that no question will be raised in London as to the desirability of having some system of notification of infectious disease. This has already been determined by the experience of other towns. We have in a former number discussed the question, Upon whom should the duty of notifying devolve? We have therefore only to consider the machinery which shall be used for making the returns as useful as possible to the public. The London County Council have decided to ask the President of the Local Government Board to permit copies of medical certificates as to cases of infectious disease sent in the first instance to district medical officers of health to be forwarded to the Council, the Bill, as originally drawn, providing for such copies to be sent to the Metropolitan Asylums Board. With this we are altogether in sympathy. The Metropolitan Asylums Board are simply a hospital-providing authority, while the London County Council are the sole disease preventing authority dealing with the whole metropolitan area. The main object of notification is the prevention of infectious disease, and, inasmuch as hospital provision is only one means towards this end, and in no way touches the question of cause of infectious disease, it is more important for the Council to receive the early intimation than for the managers of the Asylums Board. Doubtless the managers, as a hospital-providing authority, are interested in knowing in advance what claims may be made upon them; but we may trust Mr. Ritchie for arranging that information conveyed to the County Council in the first instance shall be communicated without delay to the Metropolitan Asylums Board, and in such detail as the managers may feel to be necessary for their purposes; but the managers can only need to know of cases in their aggregate, and not of individual houses that may be invaded. We hope that the relative importance of disease prevention and hospital provision will not be misunderstood.

FACTS AND FALLACIES.

WE published last week, at the request of Dr. Brown-Séquard, an account of his recent auto-inoculations, which have given rise in various quarters to some more or less sensational statements. We freely granted the use of our columns to the veteran physiologist, whose former connexion with the London medical world, and high position in scientific circles, render it incumbent on us all to receive what he has to say with respect and courtesy. At the same time we may be permitted to express the gravest possible doubts as to the remarkable results which he claims from his inoculation of the senile organism with the fluids expressed from the glands, in a state of functional activity, of young animals, even although these glands be of the highest order from the secretory point of view; and it would require far more evidence than he has adduced himself, or than has been afforded by the subsequent experiments of M. Variot, to carry conviction to our minds. We base our objection mainly upon the known anatomical and physiological facts of senile degeneration and denutrition, which, with all deference to one whose life has been passed in the pursuit of physiology, seems to us to afford insuperable obstacles to any such extended recuperation of function as is suggested in the paper by Dr. Brown-Séquard. A temporary excitation or exaltation of function is conceivable through the agency of the nervous system, and it is just possible that such is the explanation of the results gained. We note that the learned Professor has now returned to the condition experienced previous to his injections; and we cannot see in this, as he does, any proof of the efficacy of his method. Medically speaking, we should be justified in expressing a fear lest such experiments may really injure the organism they are intended to revitalise; and we sincerely trust that no individual who is subject to the "disease" of "old age" will be rash enough to follow an example so enthusiastically, though, we think, unadvisedly, set by our esteemed colleague.

RAILWAY REGULATION.

THE short Bill which has been introduced into the House of Commons for the purpose of regulating the railways of the United Kingdom is one which, when suitably amended, we sincerely hope to see passed into law. The objects at which it aims are to enforce the adoption of the "block" system and of interlocking signals, to provide proper conveniences for the passage of level crossings, to secure the enforcement of Board of Trade orders, to provide for the regular collection of returns of overtime work by railway servants, to improve and strengthen the law relating to frauds perpetrated upon railway companies by passengers who evade the payment of their fares, and to give power for the making of bye-laws to regulate the use of railway stations. These are all excellent objects, and those at least which have reference to the public safety have long and pressingly clamoured for legislative attention. The drafting of the present Bill, however, does not impress us with any great confidence that the matter has even now received the attention that it deserves. For instance, the very first enacting clause gives the Board of Trade power to order the adoption of "the block system." This, no doubt, is well meant, but so vague a term as "the block system" gives the public practically no security at all. The expression includes many different systems of working signals—some good, others bad, but all alike in this, that the signal normally stands at "danger" so as to block the passage of a train, and is moved over by the signalman when a train arrives for the purpose of allowing it to pass. In the manner of restoring the signal to the "danger" indicating position the various systems differ widely, and this makes all the difference between what we have called a good system and what may be styled a bad one. A good block system automatically shuts up a section of the line upon which a train has entered, and does not permit the signalman to work his signal again until the train has passed off the section at the other end. An efficient system of this kind affords all the protection which it is at all possible for the travelling public to have. But if, on the other hand, the signalman be left to replace the signal at his own discretion, and to move the various levers actuating different parts of his network in any order that his fancy or his convenience may dictate, there is practically in such a system no protection at all. The present Bill does not, so far as we can see, give any power to the Board of Trade to prescribe the variety of block system which is to be adopted, or to take measures to secure its efficiency. This is a point which will need considerable amendment in committee. Equally infelicitous is the language used to enact a statutory return of overtime. The return is to comprise cases of servants who are employed for "more than twelve hours at a time." Such instances are very rare. The common case is that of a guard or engine-driver who does not work for more than twelve hours at a time, but for two or three long stretches aggregating more than twelve hours, and as much may be as seventeen or twenty hours, with intermissions of a few minutes or perhaps of an hour or two interspersed, which periods of intermission must be spent at a distance from home, and under conditions which make repose impossible. In this way men are subjected to a strain as great as that of continuous work, although it may well be that they have been employed only for a number of periods

individually shorter than the proposed statutory limit. The Bill is one which deserves to pass, but which even more emphatically deserves to be amended.

INTUBATION OF THE LARYNX.

DR. WAXHAM of Chicago contributed the results of his additional experience of intubation of the larynx to the recent meeting of the American Medical Association (*American Medical News*, July 6th). He gave 60 additional cases, with 28 recoveries, or 46·66 per cent.; making, with his previous cases, a total of 210 cases, with 70 recoveries, or 32·89 per cent. An improvement in the method of feeding—viz., giving the child drink in the inclined position, with the head down—was the chief factor in the increased success; an artificial epiglottis being rendered unnecessary. The use of a smaller tube, and greater facility for expulsion of membrane, were also aids towards the better results. In all cases but one the operation was performed for membranous laryngitis. The age of the youngest patient was six months, and it died; but patients aged only fifteen and eighteen months recovered. Dr. Gay stated that at the Boston City Hospital the results were slightly in favour of tracheotomy, which had been resorted to in 32 cases where intubation had failed; only 3 of these patients recovered. In ordinary cases, however, he preferred intubation. Dr. Dennison of Colorado had performed intubation 25 times, with 7 recoveries, and 9 of the fatal cases were attributed to pulmonary œdema induced by aspiration of blood to the lungs during the time that the breathing was suspended. Dr. Brush had only 1 recovery in 23 cases. He said it was a mistake to persevere in attempts to introduce the tube when there was great difficulty. Dr. Larrabie had only experience of tracheotomy (25 per cent. of recoveries), and argued in its favour, at any rate for cases over two years of age.

CHILDREN IN THEATRES.

EVERY Act of Parliament must have its title as well as its clauses, and it occasionally happens that the relationship between the one and the other is not at first evident. Some misunderstanding of this kind may naturally have influenced the deputation which lately waited on Lord Dunraven to press the exclusion from the Cruelty to Children Bill of a clause forbidding the employment of children under ten years of age in theatres. We need hardly say that the term cruelty as here used is a most elastic one. In its strict sense it applies to the Bill, not to the clause in question. As regards the latter, the point really at issue is merely whether theatrical employment is or is not contrary to the needs of healthy child-life. If it is not, there is clearly no necessity for interference; if it is, intervention is constitutional, conservative, and unavoidable. The arguments used by the deputation were even more fully and more forcibly stated in the recent Parliamentary debate on the same subject. On both occasions the opponents of restriction denied in the strongest manner the assertion that their connexion with the stage endangered either the moral, mental, or physical welfare of young children. According to their statements, not only is there no cruelty in the process of ordinary theatrical training, but prohibition, in the words of Mr. Augustus Harris, would be received by the children themselves as a positive hardship. Moral objections, we are told, have been greatly over-stated, and this may very well be. Physical health, it is alleged, is promoted by a liberal diet, by cleanliness, and by general care. Educational interests have not been forgotten—in Drury Lane at least. Late hours are, of course, inevitable; but we are reminded that the street arab class of children from which these young performers are taken do not usually retire early. As regards the social position of the children, however, reports differ widely. Some appear to be of the true ragamuffin order. Others, including a large proportion of the whole, are the offspring of well-to-do parents, often themselves connected with the theatre. For the former the weekly wage is an important consideration, sometimes the support of the home. It is further urged that without that early acquaintance with the stage now allowed to theatre children, our actors and actresses of the future would lose one educational advantage possessed by their predecessors. This sums up the case against special legislation. Its advocates, on the other hand, are no less decided in their views. Mr. Samuel Smith is emphatic in condemning the "heated and forcing atmosphere of theatres," both from a physical and mental standpoint. He strongly objects to the employment of children on moral grounds also—at all events, in theatres of an inferior grade. Arguments of equal cogency have been put forward by others on the ground of interference with education. In this regard it certainly does appear somewhat strange that while every other calling, however wholesome or profitable in itself, has to bear the loss of child labour, and while the claims of home duty enjoy no preference, one art alone, and that a medium chiefly of amusement, should claim exemption as a right. Our own views on this question have already been clearly stated. The ability and earnestness of what we may call the theatrical party are undeniable. Their case has been stated with moderation, and with an evident desire to meet as far as possible any demands made in the children's interest. For our own part, we readily admit the value of child actors in rendering certain plays; but cases of this kind must be quite exceptional, for which the ten years' limit does not make due provision. Even at this age, and still more certainly before it, the late hours, heat, and excitement of the theatre, added to the work of rehearsals, and often also to the tasks of school, cannot be regarded as conducive to health. The functions of the breadwinner should not be thrust upon children at this early period, and, however desirable it may be to cultivate a theatrical instinct, we must remember that an actor should not be less efficient for devoting his early years to ordinary school work. We are, therefore, of opinion that legislation such as that proposed by the new Act ought to accomplish much good, and can do but little harm. Compared with similar enactments in America and on the Continent it is a measure of the most moderate character.

YELLOW FEVER IN BRAZIL.

AT San Paulo, the seat of a colony of Italian immigrants, yellow fever has raged so fiercely as to compel a precipitate stampede homewards of nearly a thousand recent arrivals. The sufferings of these poor labourers in quest of a livelihood at San Paulo itself and on the return voyage are among the most harrowing on record. The savage treatment they underwent from their employers, coupled with the deadly climate, resulted in their demanding to be sent home, a demand which, after vexatious delays, was granted. The Italian steamship *Birmania* deposited some six hundred of of them at Genoa, the majority more dead than alive. Reduced almost to inanition by fever and famine, they had barely embarked from Santa Caterina when small-pox cut off four of their original number and scarlatina and measles caused the death of twenty-five children. The hardships of their lives as settlers, reported from their own lips, were such as to make the listener shudder. To anticipate death by starvation, the father of a family killed his wife, his five children, and finally himself. To avoid something worse than starvation, the young women often committed suicide. "With my own eyes," says an Italian commissioner, who saw the debarkation at

Genoa, "I have seen girls of thirteen and fourteen years, chlorotic and semi-phthisical, who within a month or two will be mothers!" But yellow fever remained the persistent enemy those poor colonists had to encounter, diminishing their number at Santos, and reducing the population at Campinas from 20,000 to 4000. The Medico-Sanitary Commissioners conclude that while the prolongation of the rainy season and the exceptional heat of the year doubtless reinforced the fever, its base of operations still lay in Campinas itself, constructed as is that city on a low-lying, marshy soil, with little or no means of ventilation, and, worst of all, with no outfall for the fæcal matters constantly accumulating, and with difficulties almost insurmountable in constructing the necessary apparatus. Till the sanitary condition of these Brazilian settlements is placed on a normal footing, it is vain to expect the influx of colonists from Europe. These 600 arrivals at Genoa, after having been fed and clothed by the civic authority, were sent off in a special train to Chiappella, thence to diffuse through the Alta Italia a story of misery, of disease, and death, which, according to the *Opinione*, must act as the strongest of all deterrents to their compatriots from voluntarily incurring risks so disastrous.

GENIUS, MANIA, AND CRIME.

WHILE it is fully recognised by medical men that genius and insanity are sometimes curiously intertwined in the same person, or are displayed in closely connected members of the same family, it is not so easy to trace the connexion between these mental conditions and those sinful or criminal acts which are apt to be committed by persons so organised. The medical profession recognises forms of affection or moral insanity in which the capacity to govern the emotions is in abeyance. In this phase of mental disease a marked feature is the absence of delusions; hence the conflict of opinion between the medical and legal aspects which often arises where the question of criminality has to be taken into consideration. A person is often tried and condemned by the law, but is exonerated and protected by medical judgment which is permitted to supersede legal judgment. Thus the condemned criminal escapes the gallows, becomes an object of pity and commiseration, is protected by and at the expense of the State, and saved henceforth from further harm to himself or others. He may have been—nay, indeed often is—a person of the highest talent or even genius. The Rev. William Dodd, a canon of the Church, the unfortunate English divine who was executed on the 27th of June, 1777, for forgery, after trial at the Old Bailey, is an instance in illustration of the insufficiency of the law acting apart from medical judgment, which unfortunately in those days had not acquired the authority it now possesses. In our day, where doubt exists the law leans to the side of mercy, that quality which is "twice blessed." Where the acts of the subject of moral mania are criminal, the question of his responsibility is settled with much difficulty, even when, as in such cases, every opportunity of investigation is afforded. How much more difficult, then, must it be to arrive at a right judgment in those cases of moral mania where the acts are sinful but not criminal. The law does not come to his rescue. He is not the subject of delusions, yet his acts are the acts of "madness, not badness." He may inflict on himself the punishment of degradation and ruin, and life-long misery on those previously near and dear to him. He bears the scorn of former friends, and in his lucid intervals feels it keenly. But when the impulse is on him, nothing but the absolute control of others is sufficient to check his wayward career. The influence of religion may have some weight on him, but unfortunately it is too frequently the case that the strongest faith is inadequate to stay the downward course. Men are apt to judge their fellow-men uncharitably, and to deal harshly with them, believing them to be capable of exercising restraint over themselves, while all the time nothing short of enforced restraint and medical treatment can avail.

THE BIRMINGHAM WORKHOUSE INFIRMARY.

THE Birmingham Board of Guardians, in appointing a new senior resident medical officer to their workhouse infirmary, have decided to give him the services of an additional assistant resident medical officer. A member of the board, who moved a resolution with this object, is reported to have stated that, "without taking any notice of what THE LANCET and other critics had to say on the subject of the strength of the infirmary medical staff, the committee had come to the conclusion that they were putting more work on the medical officers than they were justified in doing. It was that consideration which prompted them to recommend that an assistant resident medical officer should be appointed." We are glad to see this step taken by the guardians, because we are convinced that not only is it wanted, but because it is a promise that they will make the medical service of the institution as efficient as possible. The Birmingham authorities have not been wanting in willingness or in capacity to govern properly the institution in their charge, and for our own part we are better pleased to see the staff increased, not because we pointed out the necessity, but because the necessity is now recognised by the authorities themselves. It may be more possible to manage efficiently in Birmingham an enormous institution than if it were situated in many other localities; but we do not the less insist that it is a mistake to permit, even in Birmingham, the erection for poor people of infirmaries which in respect of size contravene the regulations published by the Local Government Board.

THE TREATMENT OF GASTRO-INTESTINAL CATARRH IN INFANTS.

IN a clinical lecture, Dr. Edward P. Davis of Philadelphia deals with the important topic of infantile diarrhœa and its treatment (*Medical News*, Philad., July 6th.) He points out that lactic fermentation is a part of the normal process of digestion, and that it is a further acid fermentation resulting in the conversion of neutral lactates into butyric acid, with the formation of acetic acid and acetone, which is pathological, and of which the bacteria are injurious. The causes, then, of acute gastro-intestinal catarrh are such as tend to produce the latter change, and it is readily conceivable that the fermentative processes may under certain conditions (especially high temperature) be cultivated in the food (e.g., milk) outside the body. In addition to such changes in the ingesta, there are predisposing conditions in causes favouring vaso-motor disturbance in the digestive organs; and here, again, besides exposure to cold, exposure to heat is a common contributory cause. Hence the prevalence of this form of diarrhœa in the hot season. Dr. Davis points out that it is of prime importance that the milk should be sterilised, and gives directions for the best method of effecting this. He advises the addition of extract of malt in preference to sugar. As to treatment of the attack, he advocates, in cases of pronounced gastric irritation, the washing out of the stomach by means of a small soft catheter and rubber tubing, boiled water, containing sodium bicarbonate or sodium salicylate (one grain to an ounce) being employed; but he advises caution in the procedure. If the case passes on to well-marked intestinal catarrh with enteritis, he states that "an effort should be at once made to remove irritating ingesta from the intestines, to prevent the growth of bacteria, and to feed and support the patient in every possible way."

Calomel in one-tenth or one-twentieth grain doses is the most suitable intestinal antiseptic; and, for the first six or eight hours, teaspoonfuls of whisky and boiled water, or this with white of egg added, taking care that fluid in small quantities be freely taken. Should these means fail, intestinal irrigation, before prostration sets in, should be had recourse to, the fluid injected being made alkaline by sodium bicarbonate. Thymol (1 to 1000) or sodium salicylate (twenty grains to twenty ounces of water) is useful, and care should be taken to ensure the free flow of the fluid. Directions are also given for the after treatment; but we must refer the reader to the paper itself, which deals with the subject in a rational and practical way.

PHTHISIS IN ARMIES.

IN his statistics of phthisis, Dr. R. Schmidt of Munich (to whose observations on this subject we drew attention in THE LANCET of the 6th inst.) states the number of cases in the English army at 11·8 and of deaths at 6·2 per 1000. We do not know from what source he has derived these ratios, or the period to which they refer; but as regards the last thirty years they are decidedly erroneous. In his "Manual of Practical Hygiene" (fourth edition, p. 371, 1873) Dr. Edmund Parkes says: "The deaths from phthisis and hæmoptysis in the eight years ending 1866 averaged 3·1 per 1000 of strength, the highest annual ratio being 3·86 and the lowest 1·95. In 1867–71 the mean mortality was 2·648 per 1000." With a view to ascertain whether any change has taken place in more recent years in the phthisical death-rate of the army we have extracted from the Army Medical Reports the necessary information for the seven years 1879–85 inclusive. We have not included the two following years, as a change was made in the nomenclature and classification which might possibly affect the results. During these seven years the admissions into hospital for tubercular diseases in the whole army, at home and abroad, were 8·01, and the deaths 1·61 per 1000 of the strength. On further analysing the figures, we find that the admissions and deaths by these diseases were: among the troops serving in the United Kingdom, 9·36 and 2·04; in India 6·93 and 1·24, and at other stations abroad 6·23 and 1·03 per 1000 of strength. It is probable that Dr. Schmidt has obtained his figures from some of the earlier army reports, which date so far back as 1838, but the changes in our army during the last thirty years and the careful attention to sanitation on the part of the medical officers for a still longer period have had the effect of reducing the mortality by consumption in a very remarkable degree. It seems very desirable, in all comparisons of the nature of those made by Dr. Schmidt, that the period over which the statistical data extend should be clearly stated, as upon that may depend much of the present value of the observations.

VACCINATION IN NEW SOUTH WALES.

THE Government of New South Wales has published a letter from Dr. Norton Manning, the medical adviser to the Government to the principal Under Secretary, pointing out the great diminution in the number of vaccinations performed in that colony by public vaccinators. Thus, in 1888, there were only 2069 such vaccinations, the number of children born being 38,505. Dr. Manning says there is no real reason to believe that the decrease in the amount of vaccination is due to any objection to the operation or to any want of belief in its protective influence; a few cases of small-pox at the quarantine station, a single case in Sydney or its suburbs, or even one or two newspaper articles on the subject, is sufficient to greatly increase the number of persons presented for vaccination. That Dr. Manning's conclusions are well founded is proved by the fact that the number of vaccinations by Government vaccinators in 1881, when public attention was drawn to the subject, exceeded the number of births in that year by nearly thirty thousand; but Dr. Manning states that "there is an increasing number of persons in the colony who have never seen small-pox, to whom its very existence is only a vague belief, and who are not imbued with either the dread of the loathsome and fatal malady which renders vaccination a prudent and safe necessity or the wholesome English tradition which prescribes it as a duty." The Hon. C. K. Mackellar, who preceded Dr. Manning in office, did his best to make the Government and people of New South Wales understand the danger to which they were exposed. He urged that quarantine could not be depended upon, and expressed the fear that one day the people might be aroused from this condition of apathy by an epidemic of small-pox which might decimate the colony. While New South Wales might with advantage learn lessons from the experience of Montreal and other places where vaccination has been neglected, we, in our turn, may learn from the experience of New South Wales the inevitable results of a repeal of the Compulsory Vaccination Acts. In the interval between epidemics a population becomes apathetic, and, indeed, ignorant of the dangers against which it has to guard, and is only aroused to a sense of the importance of vaccination when small-pox is committing ravages in its midst. It is impossible at such times that provision for efficient vaccination can be made for the large numbers of people who then seek its aid, and the result is a loss of human life which a little forethought might have prevented.

DEATH FROM ELECTRICITY.

A DEATH has recently occurred at Brighton from the accidental contact of the conducting wire of the electric lighting apparatus with the neck of one of the *employés* at a brewery. The deceased was "found dead" in the neighbourhood of the fatal electrical conductor, and we are told by a report in a daily newspaper that a post-mortem examination revealed perfectly healthy organs, the only abnormality in this case being "a mark half-way round the neck as if grazed by the wire." With the extension of electric lighting occasional fatalities of this kind are to be expected, and the number of deaths from this cause has already been considerable. In the case recently reported there was, it is to be observed, a slight mark upon the body, and in a case which occurred in 1884 a blister was found upon one of the fingers of the deceased with which contact had been accidentally made by the machine. In other cases there has been no mark whatever, so that we may conclude that the pathological evidence of the cause of death in such cases is almost *nil*. It seems to us of the greatest importance that these accidents should be carefully studied, and it would almost seem to be the duty of the Local Government Board to send a trained pathologist to attend the post-mortem examination of every case which occurs, in order that a careful comparison might be established between the cases, and any points which they might present in common be duly noted. This could only be done by one having considerable accumulated experience, and such experience could only come to one having such opportunities as an official position would give. The matter is of very great importance, because a cause of death which is, so to say, gradually becoming omnipresent, and which leaves no mark, is tolerably sure to be made use of for criminal purposes, and if there be any certain means of establishing how death took place, a knowledge of this would be the only means of checking the misdeeds of persons with criminal intentions. It generally has happened hitherto that the surrounding circumstances have left no doubt as to the cause of death, but it is not reasonable to sup-

pose that such would always be the case, and if it suited the crafty schemes of a criminal it might very easily be contrived otherwise. In short, there is no doubt that we ought to use every endeavour to increase our exact knowledge of this cause of death, and we can only hope that post-mortem examinations will be carefully made in all cases which occur, and that practitioners will regard it as a duty which they owe to the profession and the public to place upon record the results of such examinations.

LOCAL GOVERNMENT (SCOTLAND) BILL.

THE House of Commons appears to be more in earnest about the sanitary government of Scotland than it is about that of England. County Councils in Scotland *must* appoint a medical officer of health; in England they *may* do so; in other words, if they like they may not, and the sanitary administration of a county may be little less than a farce. But Scotland has yet another advantage over England. In future every medical officer and every sanitary inspector appointed under the Local Government or under the Public Health Acts of Scotland shall be removable from office only with the sanction of the Board of Supervision; for this amendment the public are indebted to Dr. Farquharson, who proposed it, and Dr. Cameron, Dr. Clark, and the Lord Advocate, who supported it, and the amendment was carried by 229 votes against 126, giving a majority of 103. We congratulate Scotland on the prospects of good sanitary administration which are before it. The amendment recognises an important principle—that the medical officer of health, whose duty often compels him to give advice unpalatable to his authority, is not to be disturbed in the possession of his office for so doing. The effect will be, we are convinced, advantageous; for while it will strengthen the officer in the performance of his duties, it will not remove from him his sense of responsibility, and he must be careful to exercise the greatest judgment and tact in dealing with his authority. To none will this news be more welcome than to the medical officers of health of England, who may with confidence look forward to sharing at no distant date in the protection which is now accorded to their Scottish brethren.

THE DENSITY OF THE BLOOD IN RENAL DISEASE.

DR. LLOYD JONES, of St. Bartholomew's Hospital, who has devised a simple clinical method of estimating the specific gravity of the blood (*Journal of Physiology*, vol. viii.), contributes to the current issue of the *Practitioner* the results of some of his investigations in this direction. By comparison with several hæmocytometric numerations, he shows that, as might be expected, the specific gravity varies in proportion to the relative amount of corpuscles and plasma; and, this being so, it suggests that in renal disease changes in the specific gravity would be prone to occur. He therefore made a number of observations on the blood of cases of acute nephritis, chronic parenchymatous nephritis, and chronic interstitial nephritis. In the first the specific gravity was variable, being either normal or below the normal; in the second it was diminished in every case but one. But as regards chronic interstitial nephritis, he found that in the cases accompanied by gout the rule was for the specific gravity to be below the normal (average about 1051), whilst in those in which gout did not occur it was above the normal (average about 1058). Among these latter, however, the interesting fact was shown that in those dying from cerebral hæmorrhage the specific gravity was highest (average about 1060), and that the presence of such a condition in a case of chronic interstitial nephritis is an index of the liability of the patient to cerebral hæmorrhage. Dr. Lloyd Jones argues that the tense pulse of acute renal disease is attributable to a non-excretion of water, causing an increase in the volume of blood, and further suggests that such an increase may occur in the early stages of granular kidney, and contribute to the cardiac hypertrophy and vascular changes, which in the later stages suffice *per se* to explain the heightening of the blood-pressure.

CAN A MEDICAL OFFICER OF HEALTH BE A JUSTICE OF THE PEACE?

THE city authorities of York appear to enjoy the privilege of submitting to the Crown the names of such persons as they consider fit to be raised to the magisterial bench. One cannot object to their exercising such a right with care and deliberation; but it does appear to us that they have somewhat unwisely decided not to present the name of Mr. S. W. North, their medical officer of health. To Mr. North's personal fitness for the office of Justice of the Peace the testimony is unanimous. But, it is objected, he is obliged occasionally in the performance of his official duties to give evidence before the magistrates, and on these occasions he would be unable to occupy his seat upon the bench. That may be admitted; but even then it does not seem to us to constitute a serious objection to a candidate otherwise eligible. Any one of the magistrates may from time to time be placed in the same position, for he may in like manner be interested in a matter coming before the bench for adjudication. The objection, therefore, is one not of principle but of detail. And even if it be contended that the medical officer of health would more often than a wholly private person be placed in this difficulty, it surely does not follow that the difficulty in his case amounts to a practical bar. His appearance in the witness-box can hardly be an every-day occurrence, and when he does appear there in his official capacity, it is rather in the character of an adviser than of a mere informer that he comes forward. It seems to us, therefore, that the scruple which has led to the withdrawal of his name is not altogether worthy of the consideration which it has received; and although we would not for a moment suggest that the citizens of York who are acting in this manner are influenced by any but the purest considerations of public policy, nevertheless we cannot bear testimony to their probity without in some measure reflecting upon their judgment.

TUBERCULOSIS AND FOOD-SUPPLIES.

IN an interesting address on Tuberculosis recently delivered by Dr. James Niven, medical officer of health for Oldham, before the Association of Public Sanitary Inspectors, the lecturer drew the attention of his audience to various aspects of tuberculosis, both in the human subject and in some of the lower animals, with especial reference to their bearing on the question of public health. As regards the influence of foods in the production of tuberculosis, Dr. Niven held that everyone would probably allow that milk from an animal having tuberculous udders might be infective; and, since there is much difficulty in determining when there is a tuberculous focus of disease in the udder, the milk of tuberculous cows should be always condemned. In this connexion he referred to the fact that the owner of a valuable herd of cattle, on finding that a large proportion of his cows were tuberculous, withdrew the milk from the market, and used it, without previously boiling it, for the fattening of his pigs. The result was that the pigs, almost without exception, were so affected with the disease as to necessitate the slaughter of the whole stock. As to the use for food of the flesh of tuberculous animals, the question

was regarded as one of greater difficulty. Observation seemed to show that the meat of tuberculous animals—and this especially in the case of chronic disease—did not necessarily convey disease, and this although it is difficult to conceive how tubercle bacilli, which are liable to be scattered throughout the body by means of the bloodvessels, can fail to find lodgment in the flesh. Dr. Niven's own opinion is against the use of such flesh as a food, although he admits that this by no means constitutes the greatest danger as to tubercle in its relation to food-supplies.

PROPOSED HOSPITAL RATE FOR LONDON.

BEFORE we even know what the Hospital Sunday and Hospital Saturday collections are to be, we have suggestions for a hospital rate for London, and crude statements, inaccurate and quite irrelevant of course, about the salaries of the treasurers of the endowed hospitals. Two of the endowed hospitals receive no grant from the Hospital Sunday Fund. The third, which does, has satisfied the Distribution Committee that it deserves the grant it has received. The treasurer of St. Thomas's Hospital, instead of receiving £2000 a year, receives no remuneration for his services, though he is supplied with a residence, and well must the treasurer of such a hospital and the responsible trustee of such an estate work for his residence. The fact is that there is ample wealth in London for the maintenance of all legitimate hospitals in a charitable way if all the healthy and the wealthy would make a fit thank-offering in the shape of generous hospital subscriptions, and give a little personal attention to the question of removing abuses in the administration of hospitals, especially in the way of excluding unfit cases from the out-patient department.

THE ADMINISTRATION OF CHLOROFORM BY GAS-LIGHT.

As is well known, it has been the practice to avoid the use of ether for anæsthetic work if artificial light is needed, whenever there is fear lest the ether vapour mixed with air be heated sufficiently to explode. The heavier vapour of chloroform, in addition to not being liable to form an explosive mixture with common air, is far less inflammable, and so has been hitherto regarded as a safe anæsthetic in such cases, at least as far as dangers from fire are concerned. Recent researches undertaken by Dr. Iterson, however, seem to show that chloroform vapour, when allowed to mix with the products of combustion of ordinary coal gas, undergoes decomposition and liberates gases of a most irritating nature. Dr. Iterson believes death has been brought about in one case at least by inhaling these noxious vapours, and recounts other instances in which alarming symptoms have supervened. One patient, although apparently but little affected while inhaling the chloroform, became painfully dyspnœic afterwards, gasping and evincing the usual symptoms of asphyxia due to irritant vapours. These alarming effects passed off when the windows were thrown open and the fumes of coal-gas combustion and chloroform were permitted to escape. It is well known that samples of chloroform which have been kept exposed to diffused light will after a while become contaminated with chlorine and acid substances, which possess most irritating properties; but until Dr. Iterson's warning arrived, we were not aware that chloroform vapour would, when diffused in the air of a room or operating theatre, be decomposed in passing over a jet of ignited coal gas. We know that, heated to redness, chloroform splits up into hydrochloric acid, chlorine, and other products, including the trichloride of carbon; and both Soubeiran and Liebig have pointed out that, although chloroform vapour cannot be ignited in the air, it will, if passed over a spirit-lamp flame, burn, and liberate irritating vapours. The question as to the gases most probably formed, if the coal gas is capable of uniting with the products of chloroform decomposition, is too wide a one for us to enter upon; nor do we think that we need go farther than to say that, if Dr. Iterson's facts are to be taken without reservation, the irritant bodies which exercised so deleterious an influence were, in all likelihood, the products of the ordinary decomposition of chloroform—namely, free chlorine, hydrochloric acid, and possibly other chlorides and ammoniacal compounds.

THE CASE OF INOCULATED LEPROSY.

AT the recent Dermatological Congress at Prague, Dr. Arning of Hamburg gave an account of the notorious case of inoculated leprosy which he had supervised when in the Sandwich Islands (*Wiener Med. Woch.*, No. 29). Dr. Arning, in 1884, was permitted to inoculate a condemned criminal, with the latter's consent. Up to that time he says that the results of inoculation had been negative (e.g., twenty recorded by one observer, ten by another). The man whom he inoculated had no inherited taint. The virus was introduced by "suturing" a piece of affected skin on to that of the subject, and also by punctures &c. in various parts of the body, the giver being a girl nine years old who had passed through a severe febrile period and was suffering from tubercular leprosy. The immediate result was negative, but four weeks following the inoculation the man was attacked with an affection resembling an apyrexial subacute rheumatism. The first joint involved was the left elbow, the left arm having been selected as the site for the transplantation of a portion of leprous skin; and then other joints became attacked, the attack lasting for four months. Then occurred some characteristic swelling of the left ulnar and median nerves, which subsided in the course of six months. Meanwhile there had developed on the keloid-like scar of the inoculation site a typical leprosy nodule, from which abundant bacilli were obtained. Since Dr. Arning has returned to Europe he has learned that the disease had made marked progress (the drawings of the man's condition had been unfortunately lost, probably owing to the changes which had lately taken place in the staff of the prison and infirmary), and the unfortunate man was now in a condition of marked marasmus. Dr. Arning remarked that the case was not absolutely conclusive of the communicability of leprosy, since the man by birth and residence might have been predisposed to the disease.

HYGIENE IN THE GERMAN UNIVERSITIES.

THE transference of Professor Hueppe from Wiesbaden to the vacant chair of Hygiene at Prague is strongly advocated by the *Wiener Allgemeine Medicinische Zeitung*. It is remarkable (as pointed out in the *Medical News*, Philadelphia, July 6th) that at the present time there are chairs of Hygiene in all but two of the German Universities—viz., Bonn and Königsberg. These chairs are filled by pupils of Dr. R. Koch—viz.: Kiel, Dr. B. Fischer; Giessen, Dr. Gaffky; Jena, Dr. Gärtner; Greifswald, Dr. Löffler; Wiesbaden, Dr. Hueppe; Leipsic, Dr. Becker; and Berlin, Dr. Fraenkel.

TENDON REFLEXES IN LEPROSY.

S. M. SUZUKI, M.R.C.S., L.R.C.P., contributes a paper to the *Sei-i-Kwai Medical Journal* (May) upon the Tendon Reflexes in Leprosy. His attention was called to this subject by finding to his surprise that the reflex was increased in a case of anæsthetic leprosy. In five other cases since observed by him, including both the anæsthetic and tubercular forms, the reflex was similarly exaggerated. A like result appeared from the examination of seventeen cases from a leper asylum

and among Mr. Suzuki's out-patients at the Tokyo Charity Hospital. He remarks that the change in leprosy is that of interstitial neuritis, and that the bacillus of leprosy has been found in the new-formed connective tissue. Yet in other forms of multiple neuritis the tendon reflex is abolished. Moreover, in leprosy muscular strength is well preserved, paralysis being of rare occurrence, even in advanced cases. He concludes, therefore, that in this disease there must be other changes in the nervous system besides multiple neuritis, and intends to report at a future date upon the electrical reactions.

THE MORTALITY FROM ACUTE LOBAR PNEUMONIA.

AT the American Climatological Association meeting at Boston, Drs. C. W. Townshend and A. Coolidge, jun., of Boston, contributed a study of all the cases of acute lobar pneumonia treated at the Massachusetts General Hospital, from the first case in 1822 to the present time. They conclude that:—1. In the 1000 cases of acute lobar pneumonia treated at the Massachusetts General Hospital from 1822 to 1889 there was a mortality of 25 per cent. 2 The mortality has gradually increased from 10 per cent. in the first decade to 28 per cent. in the present. 3. This increase is deceptive from the following reasons, all of which were shown to be causes of a large mortality: (*a*) the average age of the patients has been increasing from the first to the last decade; (*b*) the relative number of complicated and delicate cases has increased; (*c*) the relative number of intemperate cases has increased; (*d*) the relative number of foreigners has increased. 4. These causes are sufficient to explain the entire rise in the mortality. 5. Treatment, which was heroic before 1850, transitional between 1850 and 1860, and expectant and sustaining since 1860, has not, therefore, influenced the mortality rate. 6. Treatment has not influenced the duration of the disease or of its convalescence.

METROPOLITAN HOSPITAL SUNDAY FUND.

A SPECIAL MEETING of the Council of the Hospital Sunday Fund will be held at the Mansion House, under the presidency of the Lord Mayor, on Monday next, the 29th inst., at 3 P.M., for the purpose of receiving the recommendations of the Committee of Distribution as to the amounts to be awarded to the various metropolitan hospitals and dispensaries from the fund collected on Hospital Sunday. The sum to be distributed will amount in round figures to £40,000, as against £39,536 last year. The returns are still incomplete, as the collections from a number of outlying congregations have still to be sent in to the central Fund. When that has been effected it will be found that this year's total is considerably larger than any Hospital Sunday collection since the Fund was initiated by the late Dr. James Wakley, in conjunction with Sir Sydney Waterlow.

THE CHAIR OF ANATOMY AT ABERDEEN.

THE following names have already been mentioned as probable candidates for this chair: Dr. R. W. Reid of St. Thomas's Hospital; Mr. Arthur Thomson, M.B., of Oxford; Dr. Symington and Mr. J. Macdonald Brown of Edinburgh.

LORD SANDHURST has set down a notice of motion in the House of Lords for Monday, the 29th inst., to present a petition signed by members of the medical profession and also on behalf of charitable institutions, praying for inquiry with regard to the financial and general management and common organisation of medical institutions, endowed and voluntary, and with regard to the administration of Poor-law institutions for the aid of the sick in the metropolis, and to move that the petition be granted.

THE monument to Ohm which, as we lately mentioned, is to be erected in Munich, has been the occasion of most gratifying co-operation on the part of physicists and physicians of all nationalities. The great pioneer in the enlistment of the electric force in industrial and professional work—for technical and therapeutic purposes—illustrates, in the movement to honour him, the essential kinship of the sciences, the subscriptions for his monument coming in with equal liberality from French, Italian, English, and Russian *savants*. The Munich Committee, in announcing the imminent close of the subscribers' list, dwells with peculiar gratification on this fact.

OUR readers will remember that the late Dr. Wilson Fox left behind him not only the magnificent Atlas of Diseases of the Lungs, published a year ago, but also a systematic treatise on the same subject. The representatives of the author have been fortunate in securing the services as editor of a physician—Dr. Coupland—who brings to the task the advantage of having been a pupil of the author. We understand that the publishers, Messrs. Churchill, have decided to publish the work by subscription, and that its appearance may be looked for early next year.

FROM Kiel will shortly set sail the expedition to explore the submarine flora and fauna of the ocean, under the supervision of Geh. Medicinal-Rath Professor Hensen, M.D. The expedition, which is to last for several months, has been subsidised by the Emperor William to the amount of 80,000 marks. A special subject of investigation will be the effect of light on the oceanic fauna, and Dr. Hensen, it is understood, will undertake a series of experiments with this object by means of a novel application of the electric light.

AT the Royal College of Physicians of London, Dr. Norman Moore will deliver the Bradshawe Lecture, on Monday, Aug. 19th, at 4 o'clock, the subject being "The Distribution and Duration of Visceral New Growths."

MR. VICTOR HORSLEY and Dr. DAVID FERRIER were elected honorary members of the American Neurological Association at the fifteenth annual meeting, held at Long Branch on June 26th and 27th.

THE Board of Trade have received through the Secretary of State for Foreign Affairs the following telegram, dated the 19th inst., from Her Majesty's representative at Alexandria: "Bombay has been placed in quarantine."

ALL the elementary schools in Coventry are now closed in consequence of the prevalence of measles, of which there are said to be at the present time some thousand cases—chiefly, however, of a mild type.

MR. E. B. WHITCOMBE, medical superintendent of the Birmingham City Asylum and Professor of Psychological Medicine in Queen's College, has been unanimously chosen Ingleby Lecturer for 1890.

MR. JOSEPH GRIFFITHS, Assistant to the Professor of Surgery, Cambridge, has been reappointed Medical Tutor of Cavendish College.

PROPOSED COTTAGE HOSPITAL FOR MEXBOROUGH. A number of the leading working men of Mexborough and Swinton are taking steps towards procuring the erection of a cottage hospital at Mexborough for the district.

THE HEALTH OF THE ARMY IN 1887.

No. I.

THE annual report of the Army Medical Department for the year 1887 states the average strength of the troops serving at home and abroad, exclusive of colonial corps, to have been 194,037 warrant officers, non-commissioned officers, and men. The admissions into hospital were 985, the deaths 8·84, the discharges by invaliding 13·30, and the proportion constantly non-effective from sickness 54·17 per 1000 of the strength. These are all considerably lower than in the preceding year, the reduction in the death-rate amounting to 2·84 per 1000, or one-fourth of the total mortality in 1886. In the United Kingdom a force of 101,114 furnished 787 admissions, 5·13 deaths, 14·80 discharges by invaliding, and 45·12 constantly sick per 1000, all lower than in the preceding year. The lowest ratios of admissions and mean sick were among the troops in Scotland, and of deaths and invaliding among those in Ireland. The highest ratio of admissions was in England, the excess being chiefly in venereal diseases. We observe a judicious alteration in the report of this year, the abstracts showing the sickness and mortality being framed for the three great divisions of the kingdom instead of the various military districts in each. Scarlet fever prevailed to some extent, there having been 185 admissions and 8 deaths. Woolwich, Chatham, and London were the stations most affected, nearly half the cases having occurred in them. Aldershot and Templemore also had a number of cases. Measles were pretty generally prevalent, Chatham and the Channel Islands being the only districts in which no case occurred; Aldershot, Dublin, and London were those which furnished the largest number of cases. There were 137 admissions and 28 deaths by enteric fever, being under the numbers in 1886, but very slightly above the average of the last ten years. It was much more prevalent in Ireland than in England or Scotland, the admissions being 2·9 per 1000, as against 0·8; the deaths also were higher, being 0·40 per 1000 in Ireland, 0·27 in Scotland, and 0·24 in England. In Ireland, of 73 cases, 50 were in Dublin, with 4 deaths; and 23, or nearly one-half of these, with 2 deaths, occurred in the Royal Barracks. There were 10 cases, with 2 deaths, in London, but in 3 of them the disease is said to have been imported from Dublin. A detailed statement is given of the various stations at which cases occurred, and the supposed causes at each, where these could be ascertained. In a considerable number of instances they were believed to have arisen from defective drainage or impure water-supply.

The admissions by veneral diseases were 219·4 per 1000 of the strength, and the proportion constantly non-effective from this cause was 16·65 per 1000, or upwards of one-third of the mean daily sick. To this number of cases, however, should be added simple venereal ulcers, returned under the class of diseases of the generative system; these would increase the ratio of admissions to 253 per 1000. The admissions under the head of alcoholism amounted to 3·2, and the deaths to 0·05 per 1000—all the latter from delirium tremens. There were 2 deaths from accidental poisoning by chloroform while being administered as an anæsthetic, one of them in a civil hospital during the reduction of a dislocation of the shoulder-joint. There were also 1 death from eating poisonous fish, 1 from an overdose of opium in an habitual opium eater, and 1 from alcohol taken in a poisonous quantity. The most frequent causes of invaliding were diseases of the circulatory system, amounting to 3·12, those of the nervous system to 2·21, and tubercular diseases to 1·65 per 1000.

A table is given showing the relative sickness and mortality of the troops quartered in camps at Aldershot, Colchester, Shorncliffe, and the Curragh, and at thirty-six large towns. The admissions per 1000 of the strength were in the camps 791, in the towns 840; and the deaths in the camps 3·91, and in the towns 5·61. The proportion constantly sick was almost identical in the two groups. By arms of the service the admissions ranged between 575 per 1000 in the Household Cavalry and 934 in the Foot Guards, and the deaths between 4·01 in the Household Cavalry and 6·46 in the Foot Guards, who also had a much higher proportion constantly sick than any of the other arms.

The mortality by ages among the troops in the United Kingdom was: under twenty, 2·60; twenty and under twenty-five, 3·92; twenty-five and under thirty, 5·48; thirty and under thirty-five, 8·81; thirty-five and under forty, 14·31; forty and upwards, 27·37 per 1000. These results correspond closely, but showing a slight decrease, with the average of the ten preceding years. Among the officers the cases of sickness were 309 and the deaths 4·39 per 1000, both lower than in the preceding year. Among the women there were 357 cases and 5·54 deaths per 1000, and among the children 468 cases and 26·10 deaths per 1000—all under the proportion in 1886.

The reports on the sanitary conditions of the Home Stations show that a vigilant supervision is exercised by the medical officers; numerous improvements have been effected, but much yet remains to be done. We notice especially in the report of the southern district, that "the sanitary condition of the new barracks, Gosport, was frequently reported owing to the unsatisfactory condition of the adjacent moat, from which, especially during the summer months, offensive smells emanated; it is stated, however, that steps had not yet been taken to remedy the evil." Surely, in the case of new barracks this should have been provided for before they were taken into occupation by the troops.

At Gibraltar the average strength of the garrison was 4614. The admissions into hospital were 674, the deaths 6·29, the mean sick 38·09, and the number finally discharged as invalids 7·15 per 1000; all much lower than in 1886, and under the average of the decennial period. In none of the corps was there an excessive rate, either of sickness or mortality. There were 35 admissions and 9 deaths by enteric fever, being in the ratio of 7·6 and 1·95 respectively, both considerably under the average. The admissions from all forms of venereal disease were 287 per 1000, and the proportion constantly non-effective from it was 19·83 per 1000. These results show a decrease from those of the preceding year, but correspond closely with the quinquennial average.

The cases of illness among the officers amounted to 411 per 1000, with no death. Among the women the cases were 480 and the deaths 11·81 per 1000; and among the children they were 576 and 38·99 respectively. In the last quarter of the year, scarlatina in a mild form prevailed among the civil population, but no cases occurred among the military. During the year considerable improvements were effected in the drainage and ventilation of some of the barracks; but the Principal Medical Officer observes that, "much remains to be done in the way of sanitation. The whole system of soil drains requires to be thoroughly overlooked, and nothing short of laying down new soil pipes can possibly meet the urgent requirements under this head. The present soil drains of brick are defective, and the fall in the lower system of drains is so small that it is impossible to flush them effectually."

The strength of the garrison of Malta was 5499; the admissions into hospital were 547, the deaths 6·54, the mean sick 35·94, and the final discharges by invaliding 7·09 per 1000 of strength. These are all much below the proportion in the preceding year and the decennial average. There were 14 cases and 5 deaths due to enteric fever, being in the ratio of 2·5 and 0·91 per 1000. It is stated by the Principal Medical Officer that "the cause remains obscure, but most probably the insanitary condition of the wine-shops and other houses frequented by the men was in fault in many cases, and not insanitary conditions inside barracks or quarters. . . . . It is rather remarkable that only one woman contracted the disease, although the women's quarters were close to the various barracks and had the same water-supply. This is another reason for thinking that the disease is seldom contracted inside the barracks." During the months of August, September, and October an epidemic of cholera prevailed among the civil population. Only one case occurred among the soldiers, which, however, proved fatal; it was attributed to his "indulging excessively in over-ripe fruit, particularly that of the prickly pear." There has been a considerable decrease in the amount of venereal diseases, which is attributed to the police supervision. Including all forms of venereal affection, the ratio of admissions was only 76·4 per 1000.

The Royal Malta Fencible Artillery, 360 strong, furnished 661 admissions, 2·78 deaths, 25·16 constantly sick, and 22·22 discharges by invaliding per 1000 of strength. One fatal case of cholera occurred during the prevalence of the epidemic.

of that disease among the civil population. The medical officer in charge considers the system of giving a money allowance in lieu of rations "not calculated to improve the efficiency of the men."

The average force at Cyprus was 472; the admissions amounted to 710, the deaths to 6·36, the mean sick to 37·43, and the invalids finally discharged to 14·83 per 1000 of the strength—all very much under the average. For four months, June to September, the troops occupied Troodos. There were 3 cases and 1 death due to enteric fever; in two of them the disease was believed to have been contracted at Polymedia, and in the third case at Limassol. At Polymedia considerable improvements were made in the barracks, and apparently with beneficial sanitary results.

The strength of the troops at Halifax, the only station occupied by them in the Dominion of Canada, was 1282. The admissions amounted to 625, the deaths to 5·46, the mean sick to 35·56, and the discharges by invaliding to 8·58 per 1000—all, except the deaths, under the decennial average. None of the diseases seem to call for special remark. Only one case of enteric fever was admitted—an officer's servant, who was supposed to have contracted it in the town.

A TEACHING UNIVERSITY FOR LONDON.

AN important deputation waited upon Lord Cranbrook at the Privy Council Office last Thursday afternoon for the purpose of making certain representations with reference to the recent reports of the Royal Commission on a University for London. The deputation consisted of the Bishop of London, Sir Henry Acland, Mr. Bywater, Mr. J. E. Erichsen (President of University College), Mr. Berkeley Hill, Dr. Priestley, Mr. Rotton, Dr. Wace (Principal of King's College), and Sir George Young. The subjoined "Statement of the Councils of University College and King's College, London," was presented to Lord Cranbrook.

To the Lord President of the Council:

1. The Councils of University College, London, and King's College, London, have had under their consideration the report of the Royal Commission on a University for London, to which was referred the joint Petition of the Colleges presented July 1st, 1887, to her Majesty in Council, together with the petitions in support of its prayer presented by the Lord Bishop of London, dated Sept. 1st, 1887, and by the Association for Promoting a Teaching University for London, dated July 21st, 1887, and the letter of the University of London, dated Aug. 3rd, 1887, opposing the joint Petition of the Colleges.

2. Besides a principal report signed by six of the seven Commissioners, there is also a dissentient or qualifying report, signed by those three of the six who are most practically conversant with the work of education. This second report differs from the principal report in a sense favourable to the prayer of the petitioners.

3. A University such as is contemplated by the petitioners is that of which the purpose is not examinations, but education and the advancement of knowledge. It is needed in London as a centre for efficient colleges and institutions doing University work, where, while their several traditions are mutually respected, they may take measures in common for organising and economising their teaching power, for supplying its deficiencies and extending its usefulness. This University ought not to be burdened with obligations towards external candidates for degrees, or towards institutions of imperfect efficiency, or it will be unable to adapt its examinations to its teaching, and will fail to utilise as it should the special gifts and studies of eminent men, whose presence and influence make the success of a University.

4. The recommendations of the principal report are limited to suggestions for the reform of the University of London considered as an examining body, and for its assumption of teaching functions, the scope of which is not clearly indicated. In the event of the adoption of these recommendations by the University of London, it is further recommended that the prayer of the petitioners be not granted. Some considerations of a public nature may arise when it is proposed to institute in London a new staff of University teachers. But apart from these considerations, it is not the desire of the Petitioners to assume an attitude of hostility to reforms in the constitution of the University of London which are perfectly compatible with their petition. Such reforms, however, would not supply what in their opinion is now required in the interests of education in the metropolis, and, if accepted by the University of London, would not render it less expedient that the prayer of the petitioners should be granted.

Signed on behalf of the Council of University College.
JOHN ERIC ERICHSEN, President.

Signed on behalf of the Council of King's College.
F. LONDIN, Chairman.

A petition was also presented, addressed by the Bishop of London to the Queen in Council, entitled "In the Matter of a Teaching University for London," in which his lordship prays for the grant of a charter to a teaching university for the metropolis, side by side with the existing University, which occupies an imperial rather than a metropolitan position. The petition, which was published in THE LANCET of March 10th, 1888, p. 501, points out that the population of London, consisting of over four millions of people, is quite sufficient to justify the existence of, and to supply material for, two universities, framed on different lines. His lordship, in introducing the deputation, complained of the fact that his petition, although referred to the Royal Commission by Her Majesty, had been neither printed nor noticed by the Commissioners. He also animadverted upon the fact that the views of the Councils of University College and King's College had been ignored by the Royal Commission. He then detailed at some length the advantages which would be offered by a Teaching University for London providing the highest form of academical education. There was an increasing demand in the metropolis for such education, and this could only be provided by a Teaching University acting independently of the existing University, which was merely an examining body, the value of some of whose degrees, he thought, was greatly overrated. In conclusion, his lordship said the deputation asked that a charter should be granted to such a body as could afford the highest academical education.

Sir GEORGE YOUNG strongly supported the views of the Bishop of London, and begged Lord Cranbrook to seriously weigh the arguments in favour of the establishment of a Teaching University.

Mr. ERICHSEN spoke of the great difficulty experienced by medical students in London in obtaining an M.D. degree on fair and reasonable terms. When a student finished his medical education in London he remained, as a rule, a Member of the Royal College of Surgeons or a Licentiate of the Royal College of Physicians. He could certainly obtain his M.D. degree by going to the London University, but the examinations for that degree had been pitched so high that the degree was practically unobtainable. To such an extent was this the case that out of the 1500 or 2000 medical students in London, on an average, not more than twenty-five annually took the M.D. degree at the University of London, and that had been the average from the year 1882 to 1887 inclusive. Others who desired the M.D. degree went to the Scotch or continental universities, where degrees were granted on easier terms. Whilst he should regret to see any lowering of the standard of knowledge necessary to obtain the degree of M.D. at the London University, he urged that a degree should be made available for the average medical student in London which should be of equal value to the degrees granted at the Universities of Glasgow and Edinburgh.

Sir HENRY ACLAND said he had very carefully considered the proposal that the Colleges of Physicians and Surgeons should have power to grant degrees in London; but the suggestion met with no favour in his eyes. The scientific and practical departments connected with the science of biology had become so vast that it was absolutely necessary to have the best kinds of examinations for average practitioners. The practical result, however, of having the teaching done by one class of men and the examining done by another class, on an entirely different principle from the teaching class, was to drive the students into the arms of the crammers.

Lord CRANBROOK, in reply, thanked the deputation for the compendious and temperate manner in which the subject had been placed before him. He submitted that a reasonable time should be allowed to the University of London to consider the report of the Royal Commission, and to see whether that University intended to apply for a Charter. No such application had up to the present been received. Should the application be made, it would, of course, have to be considered by the Privy Council. He thought twelve months would not be too long a time to allow the University of London to enable it to come to a decision. In the meantime, he would point out that the Royal Commission were to this extent in favour of the views of the deputation—viz., that they had reported in favour of the establishment of a Teaching University for London. The question that remained was, How should it be established? In conclusion, he promised to go carefully through the report of the Royal Commission, and bear in mind the views put forward by the deputation.

The deputation, having thanked his lordship for his courtesy, then withdrew.

THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

The International Workers' Congress on Sanitary Legislation.

LEGISLATION on labour questions is so intimately connected with the preservation of public health that no one studying the political symptoms of the day would be justified in neglecting such an important event as the International Workers' Congress which has just met in Paris. The political significance of this great Congress is a matter others must discuss. It is its likely influence on such legislation as affects public health which we must not pass by. But, to judge of this influence, a few words on the strength and organisation of the Congress are indispensable. It follows on a series of three trades union congresses held since 1883 in Paris and London, with the difference that on this occasion and on all future occasions political as well as purely trade societies may send delegates. The Congress was organised by what is known as the Possibilist party, or the workman's party, of France. Their strength may be judged by the fact that, though they have been opposed by all middle-class parties, whether Conservative or Liberal, they have elected nine out of the eighty municipal councillors who govern Paris. It is the aid of this compact body which has facilitated the introduction of measures of sanitary reform in Paris, measures I recently described at length. When M. Durand Claye advocated sanitary reform in respect to drainage and the reconstruction of sewers, he received the support of the Possibilist municipal councillors. On the other hand, when the scavengers and other workmen employed by the town sought to constitute a trades union, M. Durand Claye, in his capacity of chief sanitary engineer for Paris, did not resist them, but, on the contrary, gave some help. Thus the alliance of the labour representatives and the sanitary reformers has contributed to improve the health of the Paris population, and has done something towards rendering the sojourn of the numerous visitors to the Exhibition less fraught with the danger of epidemics.

The International Workers' Congress, brought together by the Possibilists, is the largest and most representative Congress of the sort ever held. There were forty-four English delegates, including Mr. Burt, M.P., and Mr. Fenwick, M.P. These delegates represented thirty-eight societies and federations of societies, possessing altogether 139,000 members. There were nine Belgian delegates, representing the labour party of Belgium, which has about 150,000 subscribers. Austro-Hungary had seven delegates, representing thirty-one trade and secret political societies. The United States had four delegates, representing Knights of Labour, the Federation of Labour, &c. The Danish, Italian, and Portuguese labour parties were represented. Holland, Poland, Russia, Switzerland, and Egypt sent delegates. Altogether there were ninety-two foreign delegates, representing 142 societies and federations of societies, and fourteen nationalities. France and Algeria had 227 societies and federations of societies represented by 521 delegates, giving a grand total of 613 delegates. When we consider that the greater part of these delegates were working men, whose expenses had been paid by subscriptions raised by fellow-workers, the importance of such a Congress cannot be contested. What, then, did this Congress decide in matters relating to public health? First and foremost, they recognised that the hours of labours must be limited by legislative enactment. Skilled artisans in receipt of good wages might form societies strong enough to reduce the hours of work; but the unskilled labourer, the sweater's victim, could never so protect himself. On the other hand, and this was forcibly brought forward by Mr. Fenwick, M.P., no one country or district could afford to reduce its hours of labour. This would place that particular country at too great a disadvantage when competing with other nations. The law therefore must be an international law. These are precisely the same arguments which were adduced at the International Congress of Hygiene held in Vienna two years ago. A resolution was then carried unanimously fixing the day's work at ten hours maximum, to be enforced by an international law. An amendment proposing eight hours was only lost by a narrow majority. A vast amount of medical evidence was adduced to prove the injury resulting from overwork and the necessity of legislative interference. This week, in Paris, the working-men representatives of Europe have confirmed entirely the opinions expressed at Vienna two years ago by the medical men and sanitary reformers who attended the International Congress of Hygiene.

The second resolution carried on international labour legislation proclaimed the necessity of one day's rest out of seven, a principle with which all who desire the physical and moral progress of mankind will approve. It was then resolved that nightwork for men should be abolished as far as possible, and absolutely forbidden for women and children. If, from a commercial point of view, there are some doubts as to the practicability of this measure, its advantage from a physical point of view is not open to question. It was proposed that the work of children under fourteen years should be prohibited, and that of young persons from fourteen to eighteen subjected to certain restrictions. The physical and other advantages of a reduction in the hours of labour are often defeated by the systematic working of overtime; therefore the Congress passed a resolution that overtime should always be paid double the usual wage, and that it should never exceed four hours in the twenty-four. The English delegation voted against this clause on the ground that they were completely opposed to overtime, and would not appear to sanction it by stipulating that it should be limited to four hours. The Congress then discussed the question of inspectorship; and here, as at Vienna, it was pointed out that the workmen, who were the principal victims, were best able to detect efforts to avoid the law. M. Jennsen, the delegate from Denmark, spoke eloquently on the question of home work: the home work which, in the columns of THE LANCET, has so often been described and denounced; the home work where the unfinished coat is laid over a scarlet-fever patient; the home which is converted into a workshop, where people eat, drink, sleep, work, cook, and wash all in one and the same room. This centre of infection, of dirt, of immorality, should be abolished, and the home restored to its proper purpose—the dwelling-place of the family. If it was impossible to prevent home work altogether, then every home where work is done should be registered, so that factory and sanitary inspectors may at all times have the right of entry. Such were the principles advocated by the Danish and other speakers, and they confirm the conclusions which were arrived at by THE LANCET during the course of its inquiry on the sweating system. Further, the Danish delegate was very anxious to see built in suitable districts model workshops, where those who now work at home might go, where they would enjoy better ventilation, better light, greater cleanliness, and inspection of a more regular and strict character.

The present agitation for the abolition of sweating in England was commenced by THE LANCET report on the new phase of sweating introduced in the East-end of London by Russian Polish Jew refugees. The facility of obtaining foreign labour at a price much below that commanded by native labour brought about a state of overcrowding, misery, and filth that constituted a serious danger to the health of the entire community. It is therefore interesting to note how this numerous and highly representative Congress has dealt with the question. They revived and carried the suggestion made at the International Trades Union Conference of 1883. It was proposed to render it illegal to employ foreigners at a rate of wages below what is usually paid to natives engaged in the same trade. By this means the wholesale importation of foreigners to reduce the cost of native labour would be prevented. On the other hand, it would not hinder workmen travelling from country to country. Many objections may be raised to such a drastic enactment, which it is not our province to discuss. The measure, however, would not involve a greater interference with the liberty of the subject than the proposed imposition of a poll-tax or the total prohibition of immigration, methods so often suggested since the revelations of the Sweating Commission.

Dealing with the work of women and children, which, far more than the influx of foreign workers, tends to reduce wages and to bring about a state of poverty and neglect that materially compromises public health, the Congress proclaimed that the same work should be paid the same price whether it was done by a man or a woman. Dr. Cæsar de Paepe proposed two important additions to this series of resolutions. Dr. de Paepe is well known throughout Europe. The son of a simple workman, he devoted from his boyhood all his leisure time to arduous studies,

and succeeded, in spite of poverty and every obstacle, in qualifying himself as a Doctor in Medicine at Brussels. Here he has practised ever since. In spite of his position as physician to one of the largest hospitals in Brussels, he has never forgotten that he is a workman's son, and he has never ceased to devote himself to the interests of the working classes. Hence when the working-class interest of Belgium obtains voice, it is generally Dr. Cæsar de Paepe who is their representative. On this occasion he proposed that the Legislatures of all countries should combine to prohibit the use in factories of toxic substances, such as lead and phosphorus, when these could be replaced by non-injurious materials. Where the use of poisonous materials was inevitable, then the industry should be subject to very strict protective regulations. He did not hesitate to qualify as murderous—morally murderous—the employment of a substance which was poisonous when it could easily be replaced by some other material which, though perhaps a trifle dearer, would answer the purpose just as well. As all these reforms and remedies were to be of an international character, and the labour parties of each country were to press them upon their respective Governments, and make these Governments come together and agree on a general assimilation of labour laws, Dr. de Paepe urged that international inspectors should be appointed. If an abuse was abolished in another country, it was sure to reappear on the other side of the frontier. This is true enough. Thus, in one country the use of salicylic acid for the preservation of beer is abolished, but it is largely used in another. Thus also, while toys made in one country are dear, but free from poisonous paints, toys made in another are cheap and not so innocuous. As for the difficulty of applying internationally laws of this description, there already existed international laws relating to fishing rights; and surely, if it was possible to control fishing smacks sailing over the broad seas, it was more easy to watch over workshops and factories that remained perfectly still on dry land. With regard to the prevention of low wages, the working of long hours, the subcontracting or sweating system, the Congress was strongly of opinion that, as a first step, the State and municipalities should give no contract, make no concession, allow of no enterprise where their sanction was necessary, unless the persons concerned pledged themselves to pay proper wages, and to avoid long hours of work and employment of sweaters.

Such were the resolutions adopted by this Congress that bear, directly or indirectly, on the preservation of public health. Many other things were said, many other resolutions voted, of a political character, which doubtless will not be so generally approved. To pronounce the theories propounded as subversive, to attack them, to stigmatise them, has, however, nothing to do with the fact that every sanitary reformer should fully understand that this Congress represents a great and growing power, a power for good or for evil, but still a power. This power, the intelligent labour organisations of Europe and America, will now systematically seek to force forward measures based on the ideas and principles enunciated above. Such a fact cannot be passed in silence, for it will influence very considerably politics in general, and in particular that special class of politics or legislation which bears on public health questions. I have described the Congresses on the Housing of the Poor and on Factory Legislation, held at the Exhibition under Government patronage and extensively advertised. At these Congresses anybody was admitted, and yet there were never a hundred persons present. At the International Workers' Congress there was no Government patronage, no hall gratuitously provided, none could attend who were not elected, the credentials were submitted to the strictest scrutiny, and yet there were 613 delegates present. This difference is surely significant, particularly when we find that there was at the same time another Congress held in Paris where similar views were enunciated so far as factory legislation and kindred subjects bearing on sanitation are concerned. This second Congress had not the same representative character, the delegates were not nearly so numerous, their credentials were not so strictly examined, but it possessed an imposing delegation of German workmen, and the fact that the Germans also agree to such international legislation on labour is an important addition to make to the list of the forces arrayed to obtain reform in this direction.

Paris, July 22nd.

METROPOLITAN HOSPITAL SUNDAY FUND.

WE have been favoured by the Chief Rabbi with a list of the contributions to the Fund made in the various synagogues of the metropolis. The largest amounts were as follows:—

Great Synagogue	(per Alfred Henry, Esq.)	£233	11 6
New West-end Synagogue	(per Rev. M. Haines)	76	3 0
Bayswater ,,	(per Rev. Dr. Hermann Adler)	76	2 6
Central ,,	(per Rev. D. Fay)	60	5 0
Dalston ,,	(per Rev. H. Gollancz, M.A.)	29	2 3
North London ,,	(per J. A. Gouldstein, Esq.)	28	10 0
St. John's Wood ,,	(per M. Rosenstein, Esq.)	24	19 6
New ,,	(per J. Cohen, Esq.)	21	4 8
Maiden-lane ,,	(per Henry Harris, Esq.)	18	1 0
Borough ,,	(per Rev. F. L. Cohen)	14	1 0
East London ,,	(per J. F. Stern, Esq.)	11	17 9

In addition to the above, the aggregate sum of £63 17*s.* 6*d.* was collected in sixteen other synagogues or Jewish religious associations, making a total of £657 15*s.* 8*d.*

MALCOLM MORRIS INDEMNITY FUND.

THE following additional subscriptions to the above fund have been received:—

	£	*s.*	*d.*
Amount previously acknowledged	330	7	0
Lawson Tait, Esq.	10	10	0
J. C. Rollin, Esq	5	5	0
Dr. John Williams	3	3	0
Dr. Buzzard	3	3	0
Dr. Gairdner (Glasgow)	2	2	0
F. Treves, Esq.	2	2	0
Dr. Waller	2	2	0
Dr. Fancourt Barnes	2	2	0
John Tweedy, Esq.	2	2	0
Dr. Lauder Brunton	2	2	0
Dr. Edward Clapton	2	2	0
Reginald Harrison, Esq. (Liverpool)	1	1	0
George Cowell, Esq.	1	1	0
Dr. Farquharson, M.P.	1	1	0
W. J. Pilcher, Esq. (Boston)	1	1	0
Dr. Stanley Murray (Putney)	1	1	0
A Friend	1	1	0
Dr. Lewers	1	1	0
Dr. R. W. Burnet	1	1	0
Dr. Frederick Taylor	1	1	0
Dr. Staples	1	1	0
Dr. Prickett	1	1	0
Dr. Felce	0	10	6
Dr. Walters (Reigate)	0	10	6
Dr. Robert Blair (Goole)	0	10	6
Dr. Alfred Clarke (Brigade Surgeon)	0	10	6
Dr. W. A. Smith (Newport)	0	10	0

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Enteric Fever at Mytholmroyd, by Dr. PAGE.—This inquiry elicited a very curious instance of confusion in sanitary administration. Mytholmroyd, a well-to-do and thriving little community in the West Riding of Yorkshire, lies at the meeting point of four separate sanitary districts in a portion of each of which it is situated. Thus it is in the Todmorden rural, the Hebden Bridge urban, the Sowerby urban, and the Midgley urban districts; its population being 2270 in upwards of 500 inhabited houses. The result of this division of jurisdiction was very marked in connexion with the prevalence of disease in question; and in view of the fact that the local officials were themselves sometimes at a loss to say in which district a certain locality was situated, much difficulty was necessarily encountered in properly allotting instances of disease and mortality. Even the medical officers of health, who are complimented for their services in dealing with the prevailing outbreak, had difficulty in supplying statistical material; and it is mainly to Mr. J. H. Thompson, a resident medical practitioner, that Dr. Page was indebted for some of his information. According to him, enteric fever has been more or less prevalent in the village for the past eleven years; and during the winter of 1885–86 he observed over fifty cases of diarrhœa with typhoid symptoms. Indeed, when the material came to be collected it appeared that in this small community there were during 1887–88 no less than ninety-five cases of enteric fever, the large body of which occurred during the months of August, September, and October. Indeed, the disease is properly spoken of as being endemic in the village. In August and September, 1887,

no fewer than seventeen households were affected, and Dr. Page evidently suspects milk as a source of the disease, although, at the remote date of his inquiry, this could not be verified. As a result of an inspection of the district, it became obvious that unwholesome conditions of water-supply, drainage, and excrement disposal prevailed concurrently with the enteric fever; and that in houses where repeated attacks took place obvious local defects were observed. The tainted condition of the river Calder was by some held responsible for the maintained prevalence, but the evidence obtained did not go far to implicate the river. The divided responsibility for different portions of the village necessarily hampered proper sanitary administration; and Dr. Page points out how needful it is that there should be unity of action if any comprehensive measures of sanitary improvement are to be effected. In all probability it is singularly English that we should maintain one village under four distinct bodies, each of which is expected to provide, for its own portion, water, sewerage, and all other sanitary requisites, and to take independent action on the occurrence of preventable disease. There is work here for the County Council.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Hackney.—The death-rate for this metropolitan district during the past year is stated by Dr. Tripe to have been the lowest on record—namely, 15·5 per 1000 persons living; and the circumstance is naturally in large part ascribed to the cool and rainy June, July, and August, and to the warm November which characterised 1888. Diphtheria was the most prevalent of the zymotic diseases; and Dr. Tripe records an interesting observation with reference to one theory as to its causation. A prevalence of the disease in connexion with the Detmold-road Board Schools was assigned by some to the unwholesome soil on which those attending that school reside. The soil in that neighbourhood was several years ago, before building operations commenced, made up with ashes and other refuse, this being then covered over with dry rubbish. When trenches were in 1888 cut for drainage purposes, offensive emanations were given off, and this in part from the soil, but mainly from the drains and sewers. To these emanations the outbreak was in part attributed. In answer to this, it would appear that, although the houses in question contained multiple families, it was rare that more than one family in a house was attacked; nevertheless, owing to personal infection, it at times happened that no less than four members of a single family contracted the disease. Personal infection at school and in the playground was evidently in the main concerned with the distribution of the infection; indeed, from the date of closing the schools and the subsequent shutting up of the playground the outbreak diminished and soon ceased. Dr. Tripe discusses the vital statistics of Hackney at considerable length; he shows the action taken in connexion with the disinfection of houses and infected articles; he refers to the pollution of the river Lea, with special reference to the Tottenham sewage works; and he explains the steady progress effected in the matter of cow-sheds, slaughterhouses, artisans' dwellings, &c.

Whitechapel.—The death-rate for Whitechapel during 1888 was 21·1 per 1000, which is less than that recorded for the previous year, when the rate had already reached the lowest grade then on record. Small-pox and typhus were altogether absent as causes of death, and only about half the average number of fatal cases of diarrhœa occurred; but, on the other hand, there was an increase in the number of deaths from diphtheria and enteric fever. The infant mortality rate is a favourable one for Whitechapel, for whilst it equalled 17·1 per cent. of the registered births in 1887 it was only 14·6 per cent. last year. No progress has been made as to the Bell-lane and Great Pearl-street schemes under the Artisans and Labourers' Dwellings Acts, and Mr. Loane expresses a hope that the new governing authority for London will soon take up these matters so as to remedy the existing evils. The report embodies a number of valuable tables as to vital statistics, and also information as to meteorological records.

York City.—In his report on the health of York during the first quarter of this year, Mr. North draws attention to the fact that the city is one of the towns in England characterised by a high rate of mortality from infantile diarrhœa, and, referring to Dr. Ballard's recent report, he summarises the principal needs of York in this matter as being the securing of a dry and clean soil, good drainage, and the rapid removal of filth. Mr. North reminds the Sanitary Committee that they have long been familiar with suggestions to the same effect; and it is to be hoped that, since there is now some prospect of improved drainage for the city, the question of excrement and refuse disposal and removal will also be efficiently dealt with. York has long stood in need of action in this direction.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5895 births and 3844 deaths were registered during the week ending July 20th. The annual rate of mortality in these towns, which had increased in the preceding five weeks from 16·6 to 21·5, declined again last week to 21·0. During the first three weeks of the current quarter the death-rate in these towns averaged 20·1 per 1000, and was 0·6 above the mean rate in the corresponding periods of the ten years 1879-88. The lowest rates in these towns last week were 12·0 in Brighton, 14·7 in Oldham, 15·4 in Derby, and 15·5 in Bristol and in Blackburn. The rates in the other towns ranged upwards to 28·5 in Leeds, 29·2 in Liverpool, 29·9 in Manchester, and 38·1 in Preston. The deaths referred to the principal zymotic diseases in these towns, which had steadily increased in the previous four weeks from 400 to 944, further rose last week to 1018; they included 708 from diarrhœa, 102 from measles, 86 from whooping-cough, 58 from scarlet fever, 36 from diphtheria, 28 from "fever" (principally enteric), and not one from small-pox. These zymotic diseases caused the lowest death-rates last week in Wolverhampton, Brighton, and Bristol, and the highest rates in Leicester, Leeds, Salford, and Preston. The greatest mortality from diarrhœa occurred in Birmingham, Liverpool, Birkenhead, Leeds, Salford, Preston, and Leicester; from measles in Leeds, Halifax, and Preston; from whooping-cough in Bradford, Preston, and Birkenhead; and from scarlet fever in Salford and Plymouth. The death-rate from "fever" showed no marked excess in any of these large towns. Small-pox caused no death in any of the twenty-eight great towns; and no small-pox patient was under treatment at the end of the week either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital. The number of scarlet-fever patients in the Metropolitan Asylum and London Fever Hospitals at the end of last week was 623, against numbers increasing in the preceding three weeks from 559 to 602; 92 cases were admitted to these hospitals during the week, against numbers increasing from 33 to 73 in the previous four weeks. The deaths referred to diseases of the respiratory organs in London, which had been 143 and 158 in the preceding two weeks, declined last week to 141; they were 45 below the corrected average, and fewer than in any previous week of this year. The causes of 79, or 2 2 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bradford, Sunderland, Nottingham, Leicester, and in nine other smaller towns. The largest proportions of uncertified deaths were registered in Liverpool, Sheffield, Halifax, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·3 and 18·6 per 1000 in the preceding two weeks, rose again to 19·6 in the week ending July 20th; this rate was 1·4 below the mean rate during the same week in the twenty-eight large English towns. The rates in these Scotch towns ranged last week from 15·0 and 15·8 in Aberdeen and Edinburgh to 21·6 in Paisley and 21·9 in Glasgow. The 500 deaths in the eight towns showed an increase of 24 upon the number in the previous week, and included 38 which were referred to diarrhœa, 20 to whooping-cough, 18 to measles, 12 to "fever" (principally enteric), 4 to diphtheria, 2 to scarlet fever, and not one to small-pox; in all, 94 deaths resulted from these principal zymotic diseases, against 79, 81, and 91 in the preceding three weeks. These 94 deaths were equal to an annual rate of 3·7 per 1000, which was 1·9 below the mean rate from the same diseases in the twenty-eight English towns. The deaths attributed to diarrhœa, which had been 17, 22, and 37 in the preceding three weeks,

were 38 last week, and exceeded by 26 the number in the corresponding week of last year. The 20 fatal cases of whooping-cough were 4 below the number returned in each of the preceding three weeks, and included 11 in Glasgow and 3 in Edinburgh. The 18 deaths from measles showed a further slight decline from the numbers in recent weeks; 8 occurred in Glasgow, 5 in Aberdeen, 3 in Leith, and 2 in Edinburgh. The 12 deaths referred to "fever" showed a further increase upon recent weekly numbers, and included 7 in Glasgow and 2 in Dundee. Two of the 4 fatal cases of diphtheria occurred in Greenock. The deaths referred to the principal diseases of the respiratory organs, which had been 80 and 56 in the preceding two weeks, rose again last week to 69, but were 20 below the number in the corresponding week of last year. The causes of 50, or 10 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·2, 22·8, and 16·3 per 1000 in the preceding three weeks, rose again to 22·8 in the week ending July 20th. During the first three weeks of the current quarter the death-rate in the city averaged 20·6 per 1000, the mean rate during the same period being 18·1 in London and 16·6 in Edinburgh. The 154 deaths in Dublin showed an increase of 44 upon the exceptionally low number in the previous week; they included 13 which were referred to diarrhœa, 7 to measles, 4 to whooping-cough, 1 to "fever," and not one either to small-pox, scarlet fever, or diphtheria. Thus the deaths from these principal zymotic diseases, which had been 8 and 11 in the previous two weeks, further rose last week to 25; they were equal to an annual rate of 3·7 per 1000, the rates from the same diseases being 4·5 in London and 1·8 in Edinburgh. The deaths attributed to diarrhœa, which had been 2, 3, and 5 in the preceding three weeks, rose last week to 13. The fatal cases of measles and of whooping-cough also showed an increase upon recent weekly numbers, while those of "fever" had declined. The deaths both of infants and of elderly persons exceeded the numbers in recent weeks. Four inquest cases and 5 deaths from violence were registered; and 58, or more than a third, of the deaths occurred in public institutions. The causes of 17, or more than 11 per cent., of the deaths in the city were not certified.

THE SERVICES.

THE *London Gazette* of the 23rd inst. announces that the Royal permission has been granted to Surgeon-Major Nathaniel McCreery, of the Medical Staff, to wear the insignia of the Order of the Medjidieh (third class) conferred upon him by the Khedive, with the authorisation of the Sultan, in recognition of his active and distinguished service before the enemy during the recent operations at Suakim.

ARMY MEDICAL RESERVE OF OFFICERS. — Surgeon Alfred Edwd. Odling, 1st Volunteer Battalion, the Lincolnshire Regiment, to be Surgeon, ranking as Captain (dated July 24th, 1889).

BENGAL MEDICAL ESTABLISHMENT. — The date of rank of the undermentioned Officers to be altered from Dec. 19th, 1888, to Dec. 20th, 1888:—Deputy Surgeon-General Archibald Hamilton Hilson, M.D., Brigade Surgeon James Cleghorn, M.D. To be Brigade Surgeons: Surgeon-Major George King (dated April 2nd, 1889); Surgeon-Major William Center (dated April 19th, 1889).

INDIAN MEDICAL SERVICE.—The Queen has approved of the retirement of the undermentioned Officers of the Indian Medical Service:—Deputy Surgeon-General Philip Warren Sutherland, Bengal Medical Establishment (dated Dec. 20th, 1888); Deputy Surgeon-General Alex. John Cowie, Bengal Medical Establishment (dated April 19th, 1889); Surgeon-Major Edwd. Colson, Bombay Medical Establishment (dated June 24th, 1889). The Queen has also approved that the retirement of Brigade Surgeon Henry Vandyke Carter, M.D., Bombay Medical Establishment, be antedated to July 13th, 1888.

ADMIRALTY.—In accordance with the provisions of Her Majesty's Orders in Council of Feb. 22nd, 1870, and Dec. 30th, 1884, Staff Surgeon James D'Arcy Harvey has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet dated July 16th, 1889).

VOLUNTEER CORPS.—*Artillery:* 1st Volunteer (Norfolk) Brigade, Eastern Division, Royal Artillery: Robt. Wrigley, Gent., to be Acting Surgeon (dated July 20th, 1889).—*Rifle:* 2nd Volunteer Battalion, the Royal Welsh Fusiliers: Wm. Jones Morris, Gent., to be Acting Surgeon (dated July 20th, 1889).—3rd (Morayshire) Volunteer Battalion, Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Acting Surgeon G. H. Mackay, M.B., to be Surgeon (dated July 20th, 1889).—19th Middlesex (St. Giles' and St. George's, Bloomsbury): Acting Surgeon W. Gill resigns his appointment; also is permitted to retain his rank and to continue to wear the uniform of the Corps on his retirement (dated July 20th, 1889).—1st Tower Hamlets (the Tower Hamlets Rifle Volunteer Brigade): Acting Surgeon W. D. Waterhouse to be Surgeon (dated July 20th, 1889).

VOLUNTEER MEDICAL STAFF.—The Maidstone Division: Surgeon H. Bennett resigns his commission (dated July 20th, 1889).

Correspondence.

"Audi alteram partem."

VOTING PAPERS AT THE COLLEGE ELECTIONS.

To the Editors of THE LANCET.

SIRS,—In connexion with Mr. Lawson Tait's very reasonable proposal that at the election of councillors of the Royal College of Surgeons of England a voting paper should be sent unasked to every Fellow with the list of candidates, it may be of interest to record the following circumstances. On the 6th inst. I addressed a letter to the Council suggesting that this should be done both for the convenience of the Fellows and the saving of expenditure; and further that the voting papers should be returnable up to ten o'clock on the day of election, as there did not appear to be any real necessity for the deduction of forty-eight hours from the Fellows who might wish to record their votes through the post. Although the fact is not ascertainable from the published minutes, my letter was submitted to the Council, and Mr. Trimmer was desired to acquaint me "that the points which I raised were fully considered by the Council when application was made for the Bye-laws by which the present mode of election is governed." The restrictions imposed by these Bye-laws are peculiar to the College. In the election of the representatives of the profession in the General Medical Council voting papers are sent as a matter of course to every registered practitioner; and at the sister College in Dublin voting papers are sent unasked to every Fellow whose address is known.

I am, Sirs, yours faithfully,

July 22nd, 1889. WALTER RIVINGTON.

MEDICAL DEFENCE.

To the Editors of THE LANCET.

SIRS,—Actions against medical men show a disposition just now to become epidemic. The medical press reports several cases, criminal or civil, in which practitioners play the chief parts. In East Anglia a case has just been decided against a surgeon. Damages were assessed at £250, with costs, which will amount to another £250 or thereabout. The object we have in addressing you is once more to point out that, from our standpoint at any rate, repeated appeals to the charity of their professional brethren to reimburse medical men for legal costs is as anachronous as would be an appeal for assistance by a man who had omitted to insure his house against fire, and which had been burnt down. The Medical Defence Union is an institution managed on insurance principles by medical men for medical men. Its executive is subject to annual election. Its officers are honorary. It has a membership of over 500, which is daily increasing; an annual income of £250; a good balance in bank; and a guarantee fund of £662, which has never been touched and is not likely to be. Apart from the financial soundness of the Medical Defence Union, the moral support which it gives to assailed medical men is enormous; and its machinery can be put into motion at any moment by the Emergency Committee. It is needless to say its policy

is to help its members, and this it has done effectively in many instances. There can be no doubt that the scope of influence of the Medical Defence Union should be conterminous with the British Medical Association, and this is the object for which we sincerely hope and labour.

We are, Sirs, yours faithfully,

LESLIE PHILLIPS, M.D., } Hon. Secs., Med.
A. GEORGE BATEMAN, M.B., } Defence Union.

P.S.—It may be well to state that by our Articles of Association the Union cannot defend any action the cause of which commenced prior to the date of membership.

REGISTRATION OF TRAINED NURSES.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the leading article in your issue of July 6th on the registration of trained nurses. As we recently had at this hospital the pleasure of listening to an address from Miss Wood on the subject, you will, I hope, pardon my intruding on your time. I observe that you quote as an object of the Association that "upon this register should be entered the names only of those who hold certificates of efficiency, their addresses, the date of their registration, and the name of the nurses' training school which granted the certificate"; and that you add the following remark: "There is therefore not the slightest intention, it appears, of interfering with these authorities, as the opponents of the Association are never tired of declaring. These institutions train, they examine, they certificate their pupils, already."

In a letter of Miss Wood, published in the *Devon and Exeter Daily Gazette* of the 6th inst., I notice the following remarks: "The provisions of the Charter must be carried out by a registration board composed of medical men and nurses; this board would certainly accept as proof of training the certificates now given by the recognised training schools of nurses, together with testimonials of good character, and on submitting these the nurse's name would be placed on the register. The responsibility of deciding upon the qualification of a nurse would therefore really rest upon the training school, which could withhold the certificate, without which the nurse could not register. There is not the slightest interference here between the training schools and their pupils." From the bye-laws of the Association I obtain the following information: "It shall be the immediate aim of the Association to obtain a Royal Charter incorporating the Association and authorising the formation of a register which shall include all nurses as described in Bye-law 4 applying for registration before the 1st day of January next following the granting of the Charter, and such nurses at subsequent dates as shall fulfil the conditions which the Charter may prescribe." At the meeting before referred to, Miss Wood was asked what these last conditions which were to be prescribed in the Charter were intended to be. She replied that "the Charter would give the governing body power to decide the conditions which should qualify nurses for registration as trained nurses." It was then pointed out to her that she was asking a hospital, which at present enjoys the power of deciding for itself who shall be certified by it as trained nurses, to aid in transferring this power to the governing body of the Association. She replied that this would be necessary, as the Charter must be comprehensive enough to last for all time.

It will be seen at a glance that there is a profound difference between a Charter which shall give the Association power to issue a list or register of persons possessing certificates of training from recognised schools of nursing, and a Charter which empowers the governing body to decide the conditions which should qualify nurses for registration. This latter might easily open the door for a central authority to recognise only certain courses of lectures, the results obtained at some central examination, or endless other conditions. This difference has been fully recognised by the nurses of the Devon and Exeter Hospital, some forty in number, who have, I believe, without exception, declined to join the Association until assured of the terms and powers of the proposed Charter. They consider that our local certificate is more valuable to them than the insertion of their names in a printed register, and that those of their station in this neighbourhood wishing to learn nursing in the future might be put to expenses for examinations &c. which do not now exist if the larger powers mentioned by Miss Wood were obtained. From the point of view of the hospital authorities such larger powers might mean the loss of probationers, and the necessity for employing fully-trained nurses for the duty now performed by these probationers, which would of course mean pecuniary loss to the hospital. It would also mean the continual change of nurses and annoyance to the managing body, inasmuch as nurses from other districts seldom stay long in places where they have few friends.

To conclude, then, the advantages to be obtained by a Nurses' Association and a register of trained nurses are fully appreciated here, but the Association will only receive our support if it can assure us that we ourselves shall retain the power of examining and certifying our nurses as trained nurses, and that it shall be stated in the Charter to be the duty of the governing body to register nurses producing our certificates as trained nurses.

I am, Sirs, faithfully yours,

Exeter, July 10th, 1889. RUSSELL COOMBE, F.R.C.S.

THE REGENT'S CANAL.

To the Editors of THE LANCET.

SIRS,—I observe in your annotation of last week that the sanitary authorities of St. Pancras vestry have at length become aware of the fact that they have been cherishing a nuisance in their midst. Every summer, with periodicity as unfailing as that of the swallows, the offensiveness of the Regent's Canal asserts itself to the detriment of its neighbours. It is only fifteen years ago that the attention of the local "powers that be" was directed to this matter. Their chief surveyor then reported that a large number of gullies, one stable, two or three urinals, and the main drain of the Zoological Gardens discharged their several and varied abominations into this *cloaca maxima*. At that time Professor Wanklyn reported that the canal water was "simply sewage." Dr. Bartlett was of opinion that the "effluent from the Zoological drain contained all the urea and the greater part of the fæcal matters in solution or suspension, and these neither disinfected nor fit to be discharged into any open sewer." With these facts before them, the St. Pancras vestry, having a mighty reputation to sustain, decided by 34 to 3, "amidst cheers and laughter," to endorse the recommendation of their "sanitary" committee to take no action in the matter. To fathom the explanation of such unseemly merriment would doubtless require such liberal education as only a vestryman can be expected to possess; but *tempora mutantur nos et mutamur in illis*, and a more sanitary and less hilarious disposition would appear to prevail in the local parliament at the present time. During the recent drought the canal has presented evidence, to eye and nose alike, of pollution of the worst description. To say nothing of "the foul weed that rots on Lethe's wharf," one may count sometimes ten or a dozen dead cats and dogs in various stages of putrid inflation; human corpses, too, are neither few nor far between—in five years 226 of these were found in the waters of the Regent's Canal. Indeed, its Stygian waters, their horrors masked by moonlight, appear to be a favourite resort of those on suicide intent, and the "slips" have been immortalised in the drama "The Lights of London." As to chemical analysis, I have from time to time examined the water with care. It is singularly rich in chlorides and ammonia. I find from 2·1 to 3·5 grains per gallon of chlorides, of free or saline NH_3 ·18 to ·60 parts per million, and of albuminoid NH_3 ·60 to 1·50 parts per million. These figures of recent analyses show less pollution than was the case fifteen years ago, when the vestry decided as I have related, but they are strong enough to claim attention and compel improvement. Lemprière tells us "the waters of Lethe had the power of making those who had to do with them forget whatever they had done, seen, or heard before, as the name implies oblivion." May we forgive the lack of enterprise of our local sanitarians in the past, and congratulate them upon their obliviousness of their former misdeeds, and the evidence they have given of a better judgment prevailing.

I am, Sirs, yours faithfully,

W. J. COLLINS, D.P.H. Lond.

Albert-terrace, Regent's-park, July 15th, 1889.

THE late Dr. George Owen Rees, Physician Extraordinary to the Queen, of Gloucester-gardens, Hyde-park, has, by his will, bequeathed the picture of Dr. Friend to the Royal College of Physicians, London.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Stanley Hospital.

THE total sum realised by the late bazaar and facy fair on behalf of the Stanley Hospital reached the handsome amount of £7741, which, after paying expenses, yielded a balance of £5186. This will pay off the debt upon the hospital and leave a handsome balance over. A gloom was cast over the final meeting by the death of Sir James Picton, the honorary treasurer of the fund, and a very prominent citizen of Liverpool, the ancient and modern history of which he wrote and published. He lived to the ripe age of eighty-four, and up to within a few days of his death appeared in his full mental and bodily vigour.

Death of Mr. Lax of Ormskirk.

Death has removed another veteran member of the profession in the person of Mr. William Lax, M.R.C.S.Eng. and L.S.A., who obtained this old double qualification in 1827, and was therefore past eighty years of age. He went to Ormskirk many years ago, and remained to the last the honoured medical attendant, respected alike by rich and poor. Since he commenced practice Ormskirk has increased considerably. Until the death of the late Earl of Derby it was the burial place of that family, from whom it is said to take its name.

The Forthcoming Assizes.

The assizes for the south-west division of Lancashire have for nearly sixty years been held in Liverpool, and for some years past there have been four assizes annually, corresponding to the four seasons. The assizes which commence on Thursday next will be historical. There are already nearly fifty prisoners for trial, the cases being of a serious character, comprising already ten cases of homicide and several of severe wounding. Among the prisoners is Mrs. Maybrick, who is charged with the wilful murder of her husband by poisoning him with arsenic. The interest taken in this case increases as the trial draws near, and though cases of poisoning and other celebrated trials have taken place in Liverpool, the Maybrick case promises to eclipse all in the attention excited. As at present arranged, Mr. Addison, Recorder of Preston, will lead the prosecution, assisted by Mr. W. R. McConnell, both of whom have had considerable previous experience in conducting criminal trials. Sir Charles Russell will be the leading counsel for the defence, assisted by Mr. Pickford, who watched the case on behalf of the prisoner at the coroner's inquest and magistrate's inquiry. Mr. Justice Stephen will be the presiding judge. The case will come before the grand jury next week, and should a true bill be found the trial will probably be fixed on some day the week following. Besides the local medical witnesses, eminent London medical experts are expected to watch the case, and, if needful, to give evidence both for the prosecution and for the defence. The trial will probably extend over several days.

The convict Kerr, whose case was noticed in last week's LANCET, has been respited. It is expected that his sentence will pe commuted to one of penal servitude for life.

Liverpool, July 23rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Bishop of Manchester and Cremation.

THE first general visitation to the clergy of the diocese has lately been made by the Bishop of Manchester, and in the addresses he delivered Dr. Moorhouse has shown himself to be endowed, like his immediate predecessor, Dr. Fraser, with broad and liberal views. Amongst the many topics he has discoursed upon was the subject of cremation, concerning which the Bishop declares that "the practice of cremation can create for Christians no doctrinal difficulty whatever. The question becomes one of sentiment only. For my own part, I confess that, as a matter of feeling, I desire my body to be buried in the earth.....believing that, if due and well-known precautions be taken, burial may do no more harm to the living than burning. Still, I presume not to judge my brother, and if he prefers to consign the remains of his beloved to the furnace, I ought to do what I can to brighten the sorrowful days of his bereavement with Christian comfort."

The Visit of the Shah.

Last week Manchester was *en fête* during the visit of the Shah of Persia. His Majesty was taken to view the progress of the Ship Canal works, in which it is said he takes much interest, as he may have some work of the same sort on a small scale at home before long, in connexion with the opening up to navigation of some of his rivers. Notwithstanding the large crowds of people that lined the streets of the city during his stay, no accidents of any serious character were reported, with the exception of the fatal balloon catastrophe. "Professor" Higgins, taking advantage of the large number of sightseers brought together on the Tuesday, announced a parachute descent from a balloon. Higgins accomplished his part of the programme with no worse results than a bath in the ornamental water in Alexandra Park, but the unfortunate man who was in charge of the balloon by some mismanagement caused it to collapse, and fell from a height of upwards of a mile, being instantaneously killed. A question asked in the House of Commons relating to this accident has elicited the reply from the Home Secretary that he has no power to interfere in prohibiting such exhibitions if people choose to risk their limbs and lives in such foolhardy feats.

Royal Infirmary.

The annual meeting of the trustees of the infirmary is held to-morrow. In the report to be then submitted it is stated that 43,985 persons have been under medical treatment at the infirmary and its allied institutions. It appears that, notwithstanding inquiries are now instituted into the means of all applicants for relief, the numbers of in-door and out-door patients are steadily increasing year by year. Since 1885 they have increased from 23,000 to 36,000 during the year just ended. The Board are of opinion that some further steps will have to be taken in connexion with this increase, and there undoubtedly exists a feeling among many members of the profession that these large numbers contain many persons who could afford to pay something for their medical attendance. The finances of the institution appear to be in a satisfactory condition, the income having exceeded the expenditure. At the Royal Infirmary the year's expenses amount to £16,324; at the Convalescent Hospital, £5190; and at the Fever Hospital, £8873.

Owens College.

According to the report just issued of the committee appointed by the Government to consider the manner in which the imperial grant of £15,000 to university colleges in Great Britain should be distributed, Owens College is to receive the sum of £1800 per annum, whilst Liverpool University College has £300 less than this. Hitherto Owens College has depended entirely for its funds upon local effort, and nobly have the citizens of Manchester and district supported it; but each year finds the scope and amount of its work increasing, and this grant, small though it is compared with that received by some of the Scotch and Irish Colleges, will be very acceptable.

Zymotic Disease.

Scarlet fever still appears to baffle the efforts of our local health authorities to check its spread. Notwithstanding that large numbers of cases are sent to hospital for isolation, from sixty to eighty fresh cases are reported weekly, and no week passes without several deaths therefrom. Three cases of rabies were reported to have occurred last week in the neighbourhood of Rochdale, but fortunately the animals have been destroyed without having harmed anyone.

Heavy Damages for Railway Accidents.

During the assizes just ended, two actions were brought against railway companies. In one case the Lancashire and Yorkshire Railway were sued by the executors of a builder who had been killed on their line by a train starting suddenly without proper notice, and a verdict was given for £1000 for the family of the deceased. In the other, the Cheshire Lines Committee had to pay the sum of £3750 for injuries received in a collision by Mr. Lynde, a solicitor, in August of last year. The liability was not disputed, but it was argued that, although undoubtedly the plaintiff had sustained serious injury, being quite incapacitated from following his profession, it was highly

probable that he would ultimately recover. A large array of medical witnesses were called on both sides; for the plaintiff, Drs. Dreschfeld, Ross, and Griffiths, Mr. T. Jones, and Professor Horsley were called, who all agreed that it would be at least some years before he could be restored to health; whilst, for the company, Mr. Thorburn, Dr. Renaud, and Mr. H. Page, of London, thought that in a twelve-month's time recovery would ensue.

July 24th, 1889.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle.

A SPECIAL MEETING of the House Committee of the Infirmary was held last week to appoint a lady superintendent, and from a list of over forty candidates Miss Frances H. Close of the Kensington Infirmary was elected. Miss Close served throughout the Egyptian campaign, and has received medals and distinctions in recognition of her services to the wounded soldiers.—In view of the forthcoming visit of the British Association to our city, Professor Flower (the President-elect) and other members of the Council have just paid us a visit to see the amount of accommodation which can be provided for the members. The Medical College, now nearly complete, will, it is thought, with some temporary alterations, provide room for the sectional meetings; while the adjacent St. George's Hall is capable of seating over 2000 persons, and in this Hall the President's address will be delivered, as also the three ensuing lectures. The Central Exchange Art Gallery is by far the finest building of its kind in Newcastle; in many respects it is unique as a structure, and well worth a visit. I am happy to say that the members of the Association will have an opportunity of inspecting this magnificent gallery, as Messrs. Barkas and Son have invited them to a promenade concert, with an exhibition of local paintings and works of art.

Harrogate.

On Thursday the formal ceremony of opening the magnificent Bath Hospital at Harrogate by H.R.H. Prince Albert Victor took place. The whole proceedings passed off very successfully. The entire cost of the buildings is about £34,000, the land being given by the Earl of Harewood.

The Proposed New Hospital for Halifax.

The scheme for the erection of a new hospital at Halifax is being taken up in the town and district with much spirit. Already a sum of about £31,000 has been promised or subscribed, and it is supposed that £50,000 will be required for the building and land.

Sheffield.

At a special meeting of a joint committee of the Skin Hospital and the Ear and Throat Hospital at Sheffield, it was decided to amalgamate the two institutions and thus save expense. Dr. Hardwicke pointed out some of the advantages of the union. Both hospitals were established ten years ago, and have an out-door attendance of about 1500 during the year.

White-lead Poisoning.

During the past week two inquests have been held on female white-lead workers employed in works on the Tyne, and verdicts of poisoning from lead recorded. Some idea may be formed of the detriment to health from a fact stated in reference to one of the cases—namely, that she had left off the work for two years and a half. It is a fact well known to practitioners here that there are large numbers of females suffering in the neighbourhood of the Tyne from the effects of lead.

Windermere.

Miss Preusser, a well-known lady, died at Windermere on Wednesday, aged sixty-three. She enjoyed the intimacy of Mendelssohn, Jenny Lind, and other contemporary musicians and composers, but she will be chiefly remembered as one of the first promoters of the modern system of boarding out pauper children, and was instrumental in promoting the petition to Parliament in 1870 urging that step. Under her guidance the system had been extensively carried out at Windermere, where in the village homes scores of children have been successfully trained for domestic service.

The Stockton and Shields hospital demonstrations were held yesterday, and, notwithstanding the unfavourable state of the weather, the turn out and collections were satisfactory.

Newcastle-on-Tyne, July 24th.

EDINBURGH.

(FROM OUR OWN CORRESPONDENT.)

The Sanitary Condition of Property in Edinburgh.

FOR some time the members of the Social and Sanitary Society have been making an organised and systematic inspection of some of the more thickly populated parts of Edinburgh, and they have just forwarded their last report for the season, dealing with the Pleasance, to the Town Council. These reports will be of enormous value to the sanitary inspector, and to owners of property in the parts to which they refer. They are not mere collections of vague generalities, but they enter into a most detailed account of the condition of drains, the ventilation and lighting of stairs, the effluvia from cesspools, and similar matters. Reference was made to this subject some time ago, and it is pleasant to find that the self-imposed task is still so faithfully carried out by the ladies and gentlemen who form the inspecting committee. That the work is valuable is evident from the fact that such prominence is given to the reports presented to the Town Council.

The Close of the Summer Session.

All the medical classes, both University and extra-mural, were brought to a conclusion on Friday last, and the medals and class prizes were awarded to the successful candidates in the various departments. On Monday and Tuesday the written examinations for the first professional examination were held. The oral examinations will commence immediately, and will be finished before August 1st, on which date the graduation ceremonial will take place. When the classes meet again in October, it is possible that one well-known face will be missed from amongst us, as Dr. Symington will be a candidate for the chair of Anatomy, to be vacated by Professor Struthers of Aberdeen. The names of other candidates, both from Edinburgh and elsewhere, are freely mentioned.

Prize given by the Lord Rector of Edinburgh University.

The Lord Rector of Edinburgh University, the Marquis of Lothian, Knt., has notified his intention of offering a prize of 25 guineas for the best essay on "Greater Scotland, or the part played by Scotsmen, prior to the Union, in the story of other countries." All graduates and under-graduates are eligible to compete, "provided they be not Masters of Arts of more than two years' standing, and provided that on Jan. 1st next they shall not have left the University for more than two years." Young medical graduates and undergraduates have ere this taken most honourable positions in the Lord Rector's essay competition, and those of their successors who have literary tastes have now a chance of obtaining similar distinction, especially as such work will, to most young Scotch graduates, prove a pleasant recreation in intervals snatched from professional labours.

Edinburgh, July 23rd.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

The Medical Schools Amalgamation Scheme.

THE new bye-laws in reference to the proposed scheme of amalgamation between the three medical schools in Dublin will, it is believed, be submitted this week to his Excellency the Lord-Lieutenant for his approval. In all probability the necessary arrangements will be completed so as to commence the ensuing session under the scheme of amalgamation between the Royal College of Surgeons in Ireland and the Carmichael and Ledwich Medical Schools.

Board of Superintendence of Dublin Hospitals.

The thirty-first annual report on the condition of the Dublin hospitals which receive Parliamentary aid has now been issued. The total number of patients under treatment for the year ending March 31st last was 9567, of whom 8410 were

discharged cured or relieved, or left for other causes, and 400 died, or a mortality of 4·79 per cent. on the cases treated to a termination. In Steevens' Hospital a separate ward on the second floor has been converted into a maternity for the wives of soldiers. The board, however, express an opinion as to the inexpediency of having a maternity ward in a general hospital, and recommend that a suitable and detached building should be used for the purpose. Every department of the Meath Hospital is in perfect order, and supplied with the most modern improvements, admirably carried out. At the Cork-street Fever Hospital, small-pox, typhus, measles, and scarlatina cases are segregated in wards or houses, each of which may be said to have its own establishment of nurses and ward-maids. The governors of the House of Industry Hospitals gave practical effect to the recommendations submitted to them by a joint committee consisting of members of the board and members of the medical staff, in reference to the improvement of the nursing arrangements, by appointing trained medical and surgical superintendents of nurses, one to act in the Whitworth and the other in the Richmond Hospital, and also additional day and night nurses. In the Rotunda Lying-in Hospital 1538 patients were admitted (274 being discharged not delivered), the mortality, deducting the non-parturient cases, being 0·32 per cent.; while, at the kindred institution, the Coombe Hospital, the deaths were equal to 2·0 per cent. As regards St. Mark's Ophthalmic Hospital, the board fear that the structural defects of the basement and the overcrowding of some of the wards mar to a great extent the working of the hospital. They suggest that, if funds were available, a new wing should be built, which would afford additional ward accommodation and provide for the complete rearrangement of the administrative department, including the erection of offices, store-rooms, &c.

Proposed Abolition of the House of Industry Hospitals.

The following resolution was moved at a meeting of the North Dublin Union Guardians last week: "That this board is opposed to the abolition of the Richmond, Hardwicke, and Whitworth Hospitals, inasmuch as it would throw an increased charge on the rates of this union in the guardians being forced thereby to provide for a very much increased number of sick poor not being in receipt of pauper relief. We also deprecate the proposition to reduce the annual Government grant, as also the placing of its distribution in the hands of any central board not elected by, and not responsible to, the ratepayers. That a copy of this resolution be forwarded to the Chief Secretary for Ireland, to the members of Parliament for the city, county, and University of Dublin, with the request that they will oppose the abolition of the hospitals referred to, or any reduction of the grant." The motion was lost by a majority of four.

Professorship of Midwifery, School of Physic, Trinity College.

The Fellows of the College of Physicians will on Friday next, the 26th inst., proceed to the election of a Professor of Midwifery in the Medical School of the University of Dublin. The vacancy has been created by the decease of Dr. J. Rutherford Kirkpatrick, and the appointment will be for a period of seven years.

Royal Barracks, Dublin: Typhoid Fever.

It is rumoured that in consequence of the number of cases of typhoid fever that have occurred in these barracks, especially in the Royal Square, the authorities have come to the determination to remove all the troops at present quartered there. The West Surrey Regiment goes to the Richmond Barracks, and two companies of the Royal Lancaster Regiment will be placed in Island Bridge Barracks. It is stated that the present outbreak of typhoid fever is by far the worst that has taken place for years, cases occurring almost every day.

Westmoreland Lock Hospital, Dublin.

The Board of Superintendence of Dublin Hospitals in their recent report state that, although the several departments of the hospital were in good order, the aspect of the wards was one of extreme gloom, which may be ascribed to the internal arrangements, and to the structural defects of the building. They are of opinion that institutions of this kind should be made attractive to patients, so that they may be induced to seek admission at the earliest stage of their disease, and that the authorities should have power to detain them in hospital until complete recovery has ensued. The lavatories, bath-rooms, &c., are inadequate, and the board suggest that the hospital should be rebuilt on modern principles, and on a more favourable site in a less densely populated neighbourhood. They consider also that a special hospital in Dublin is necessary for the reception and treatment of female patients affected with venereal diseases.

Queen's College, Cork.

From the report of the President, which has been recently issued for the academic session 1888–9, it appears that the total number of students on the books of the College was 229, of whom 218 had matriculated, 172 being in the Faculty of Medicine. Many additions have been made to the Pathological Museum, which, under the care of Dr. Cotter, is rapidly progressing; while the Board of Works have provided in this year's estimates for the completion of the cases in the Natural History Museum, for which there have not been up to the present adequate funds. The Chemical Laboratory is still insufficient for the number of students who attend, and the Professor of Chemistry has been obliged to divide his class. The Biological and Physiological Laboratories are also inadequate for the demands made upon them, and, as practical work in these subjects is obligatory in the curriculum of the Royal University, the professors are put to great inconvenience by the limited room. The President trusts that some steps will be taken this year to enlarge the teaching staff of the Medical School in accordance with the present requirements of medical education.

The Armagh County Infirmary.

The Lord Mayor of Dublin has sent a subscription to the memorial fund which is being formed to improve this hospital, and has consented to receive donations for that purpose. The institution has met the emergency thrown upon it by the recent railway disaster most fully, and the comparatively small sum now required ought to be obtained without difficulty.

I regret to record the death of Mr. John Gibson, M.B., at the early age of twenty-five years, from typhoid fever. He was resident surgeon at Sir Patrick Dun's Hospital.

Mr. Burke Gaffney, assistant-surgeon to St. Vincent's Hospital, intends leaving Dublin next month for Melbourne. Mr. Gaffney has been a successful teacher, and his many friends in this city wish him every success in his future home.

Dr. Joseph Finegan has been elected medical officer of Carlingford dispensary district, county Leith.

Dublin, July 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Military Hygiene.

THIS subject is worthily occupying the attention of the authorities, and M. de Freycinet, the present Minister of War, manifests great interest in the well-being of the French soldier. He recently sent in a remarkable report to the President of the Republic, from which it appears that the military mortality rate in times of peace has diminished in the last twenty years from 12 to 8 per 1000. M. de Freycinet justly remarks that "the good health of an army is the first condition of its power," and acting upon this principle he is constantly searching for means to ameliorate the hygienic condition of the French army. It is known that the malady which causes the greatest ravages among the French troops is typhoid fever. The death-rate from this malady alone is frightful. In thirteen years (1875 to 1887) typhoid fever affected 141,648 men, and caused 21,116 deaths, or seven times more than those of the civil population. Among the causes of the prevalence of this affection in barracks, overcrowding plays the greatest *rôle*. But the proximate causes arise chiefly from errors in hygiene, the bad quality of the drinking water, the defective arrangements of the latrines, contamination of the soil and of the atmosphere by the emanations from the sewers and from putrescible deposits, &c. The scientific part of the report is highly interesting. It is stated that by a classification of drinking water according to its variable proportion of bacteria and microbes, one can almost follow the history of typhoid fever in the military establishments. If this water does not directly produce the malady, it prepares

he system for it, by causing intestinal disorders which render the organism liable to become infected with the typhoid contagium. The purity of drinking water is, on the contrary, fertile in beneficial results to the public health in general and that of the army in particular. The beneficial results of providing pure water have, moreover, become evident, for since certain barracks in Paris have been supplied with spring water, the ravages of typhoid fever have diminished in the proportion of five-eighths. In fine, since the month of March last, when all the military establishments were provided with spring water, it has been observed that there has never been less typhoid fever among the troops in Paris. As it is now almost universally admitted that typhoid fever is propagated through the medium of fæcal matter, it is evident that everything should be done to prevent the contamination of the air and of the soil by the mephitic exhalations from cesspools. It must, however, be admitted, to the credit of the present Government of France, that important reforms are being carried out in this direction, for wherever the *tout à l'égout* system is not practised, movable *tinettes* or tubs are substituted for the old-fashioned permanent receptacles.

Anti-Tobacco Congress.

The first meeting of the International Congress against the Abuse of Tobacco took place recently, when M. Renaudin, formerly army veterinary surgeon, was elected honorary president. He is one hundred and four years of age, having been born in 1785, and was introduced as a non-smoker. Dr. Dujardin-Beaumetz, of the Academy of Medicine of Paris and hospital physician, was elected president, and Dr. Drysdale of London was named one of the vice-presidents. As soon as the bureau was formed, M. Ortolan, a retired naval officer, opened the meeting by a few remarks on the history of tobacco, its introduction into Europe, its properties, and its toxic principles. He said that the proportion of nicotine diminished when the stalks of the tobacco plant were placed very near each other, and when the leaves were numerous and situated very low on the stem. This is why the Germans, who smoke a good deal, are less affected, as in that country the culture of tobacco is free, whereas in France it is under strict regulations, and the number of leaves per plant is limited. French tobacco contains as much as 6 per cent. of nicotine. M. Pradel cited numerous cases of abortion produced among the women employed in the tobacco manufactories. Dr. Dujardin-Beaumetz observed that what is referred to here is only that intoxication which is effected through the skin, and that the inconveniences pointed out refer only to women who continually manipulate tobacco and not to women who smoke. These latter only experience the well-known ill effects, such as troubles of digestion, smoker's sore throat, &c. M. Marambert endeavoured to prove by statistics that the abuse of tobacco is one of the causes of the lowering of public morality. He demonstrated that all criminals, gamblers, dissipated persons, and bigamists smoke, and have smoked from their childhood. This is certainly trying to prove too much, and consequently will probably serve to do more harm than good to the objects of the Congress. The meetings of the International Congress have been brought to a close, with various recommendations, among which may be mentioned the promulgation of a law interdicting minors under the age of sixteen years from making use of tobacco in any form.

Congress on the Blind.

An International Congress for the Amelioration of the Condition of the Blind is to be held in Paris, under the patronage of the French Government, from Aug. 5th to the 8th. All persons connected with societies or establishments devoted to the blind are invited to take part in its proceedings. A subscription of five francs will be charged for membership, which will entitle each member to the publications of the Congress. Foreign members are not required to pay any subscription. Ladies will be admitted as members. An exhibition of objects which serve for the intellectual, musical, and professional teaching of blind persons will be open during the sittings of the Congress. During the same period members may visit the Valentine Haüy Museum. The Congress will hold its meetings at the National Institution for the Blind, where will also be held the exhibition referred to above. Directors, professors, or teachers of the schools for the blind in France and foreign countries who make application fifteen days before the opening of the Congress to the director of the National Institution for Blind Children will be lodged gratuitously in this establishment. The rules of the Congress, which will be sent to members, will indicate more fully the conditions to which they will have to conform. Applications should be addressed to M. de la Sizeranne, general secretary of the Congress, 56, Boulevard des Invalides, Paris.

Paris, July 20th.

ROYAL COLLEGE OF PHYSICIANS.

AT the quarterly comitia of the College of Physicians, held on the 25th inst., the President, Sir A. Clark, Bart., reported that after an interview with the President of the Poor-law Board, a clause had been framed in the Bill which would enable students to be received at the fever hospitals. He also referred to the Lunacy Acts Amendment Bill, and the steps taken to amend it in accordance with the views of the College.

The new Members, whose names will be found in another column, were duly admitted; and the College seal was affixed to the diplomas of the 122 new Licentiates. The diploma in Public Health was granted, in conjunction with the College of Surgeons, to thirteen successful candidates.

The College seal was affixed to the Moxon Memorial Trust Deed.

The President stated that the following Fellows had been appointed to deliver the lectures during the ensuing year: Goulstonian, Dr. G. N. Pitt; Milroy, Dr. Ransome (Manchester); Lumleian, Dr. Hughlings Jackson; Croonian, Dr. D. Ferrier; and that for the year 1891 Dr. Burdon Sanderson had consented to deliver the Croonian Lectures.

The following gentlemen proposed by the Council were duly elected to the offices named for the ensuing year:—Censors: Drs. J. S. Bristowe, J. Hughlings Jackson, W. H. Broadbent, and Sir W. Roberts, M.D. Treasurer: Sir D. Duckworth, M.D. Emeritus Registrar: Sir H. Pitman, M.D. Registrar: Dr. E. Liveing. Harveian Librarian: Dr. W. Munk. Elected Members of the Library Committee: Drs. J. F. Payne, I. B. Yeo, R. Farquharson, and N. Moore. Curators of the Museum: Drs. W. Wegg, W. H. Dickinson, W. Cayley, and N. Moore. Finance Committee: Sir E. Sieveking, M.D., and Drs. G. T. Fincham and R. Martin. Examiners—Chemistry and Chemical Physics: Dr. C. H. Ralfe, J. M. Thomson, F.C.S., W. Ramsay, Ph.D., F.R.S. Materia Medica, Medical Botany, and Pharmacy: Drs. H. I. Owen, N. I. C. Tirard, J. M. Bruce, W. Hale White, and C. Y. Biss. Elementary Physiology: Drs. H. L. Jones and F. W. Mott. Physiology: W. H. Allchin, M.B., Dr. A. Gamgee, and C. S. Sherrington, M.B. Osteology and Anatomy: W. P. Herringham, M.B., and Dr. S. Taylor. Medical Anatomy and Principles and Practice of Medicine: W. H. Stone, M.B., Sir Dyce Duckworth, M.D., Drs. A. B. Duffin, J. F. Payne, T. H. Green, J. Cavafy, F. T. Roberts, A. E. Sansom, S. Coupland, and J. F. Goodhart. Midwifery and Diseases peculiar to Women: Drs. J. B. Hicks, A. L. Galabin, C. J. Cullingworth, and F. H. Champneys, M.B. Surgical Anatomy and Principles and Practice of Surgery: Sir William Mac Cormac, F.R.C.S., and Professor Humphry, F.R.C.S.

Dr. W. S. Church and Dr. Fred. Taylor were appointed Examiners for the Murchison Scholarship.

On the recommendation of the Council, it was resolved to award the Baly Medal to Prof. Heidenhain of Breslau.

A letter was read from the Rev. E. C. Lucey, rector of Merstham, Ashford, in support of a memorial window to Linacre, to be placed in his church. The letter was referred to the Finance Committee, Dr. Munk, V.P., remarking that Linacre was a great pluralist and held about eleven livings.

Letters were read from the Colonial Office thanking the College for the Reports on Blackwater Fever and Quarantine.

A letter was read from Mr. G. C. Bright offering to the College the original drawings and manuscripts of the "Medical Reports" of his father the late Dr. Bright. The gift was cordially accepted.

Communications were received from the General Medical Council (1) dealing with the question of precedence and the steps taken by the Council in the matter; and (2) respecting

an inquiry into the methods of the examinations &c., which was referred to the Committee of Management.

A communication was read from the Father Damien Memorial Committee respecting their proposals; the consideration was deferred until the report of the Leprosy Committee was received by the College.

A communication from the Senate of the University of London, inviting suggestions respecting the proposals of the recent Commission, was also deferred pending the reception of the report of the Committee appointed at the last comitia.

The report of the Leprosy Committee was then presented. It expressed satisfaction that the action taken by the Father Damien Memorial Committee would enable the proposals of the College to be carried out It also dealt with each of the suggestions of the Memorial Committee, and, having been received, it was resolved to circulate it, together with the report of the Damien Memorial Committee, among the Fellows for consideration at the adjourned meeting to be held next week.

Obituary.

CHARLES METZGAR, F.R.C.S. ENG.

THE news of the unexpected death of this gentleman, at the early age of twenty-five, will come as a painful shock to the very large circle of his friends. Mr. Metzgar was born at Kingstown, Jamaica, in 1863. He received his early education at Dulwich College, and entered Guy's Hospital in 1881. During his career there he took especial interest in surgery, and after having taken the F.R.C.S. in 1888, he held the post of house-surgeon. He left his old school early in that year to accompany a shooting party in South Africa. Fond of sport from boyish days, of pigeon and duck shooting in Jamaica, and being from his comfortable circumstances able to take life easily, he had previously joined shooting parties in Austria. He returned to England on June 23rd. He had been feeling ill and depressed for some days before landing. On July 4th he took to his bed, and was seen by Dr. Taylor and Dr. Washbourn, who continued in attendance throughout the illness, which proved to be typhoid fever. Weakness of the pulse was noticed throughout, and the disease proved fatal on July 10th. His kindly and genial temper and his eminently manly and straightforward character greatly endeared him to all with whom he was brought in contact; and his sudden death is very keenly felt by his many friends at Guy's and elsewhere. The funeral took place on July 13th at Christ Church, Forest Hill. Among those gathered around the grave were some of the staff and many of the students of his hospital.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen were admitted Members of the College on the 25th inst.:—

Carr, John W., M.D. Lond.
Cordes, Auguste E., M.D. Paris.
Hunter, William, M.D. Edin.
Paterson, Donald R., M.D. Edin.
Taylor, Fredk. H., M.D. Lond.
Turner, Duncan, L.R.C.P.
Turner, Wm. A., M.B. Edin.
Tyson, Wm. Joseph, M.D. Durh.
Wheaton, S. Walton, M.D. Lond.
Whitehead, J. L., M.D. St. And.

On the same day the following gentlemen, having conformed to the bye-laws and regulations and passed the required examinations, were admitted Licentiates of the College:—

*Aaron, David Jacob, King's Coll.
Aylward, Walter Chas., London.
Barber, Sidney Fredk., Sheffield.
Barkworth, H. Smith, St. George's.
*Bartlett, Walter Fredk. Cope.
Beauchamp, S., St. Bart. and Cam.
Bennett, C. H. W., St. Bart.'s.
Bennett, Colin E. W., Middlesex.
Berryman, Henry A., St. Bart.'s.
Bishop, Reginald Wm. Snowden, Sheffield and St. Mary's.
Bokenham, T. J., St. Bart.'s.
*Bowlby, George Herbert, Toronto.
Bowman, Henry Moore, St. Bart.'s.
*Brenton, William Hore, Guy's.
Brown, David, London.
*Brown, F. Nathaniel, St. Bart.'s.
Carpenter, E. Godfrey, St. Bart.'s.
Challis, Harry Thornton, London.
*Clarke, John Kempe, Middlesex.
Clarke, J. Tertius, St. Thomas's.
Clemson, Thos. F., Manchester.
Colyer, J. Frank, Charing-cross.
*Cooper-Pattin, W. H., Cambridge and St. Thomas's.
Creswell, J. E., University Coll.
*Crompton, Ernest, St. Barthol.'s.
Crook, Arthur, London.
*Cross, James Allan, Toronto.
Crosse, R. E., St. Bartholomew's.
Crump, T. G., Cam. and Birming.
Curwen, Eliot, Cambridge.
Dallas, S. A. C., University Coll.
Daniel, Herbert, Middlesex.
*Dawson, Ernest, Westminster.
*Dennison, T. Stephenson, Leeds.
De Jersey, W. B., Cam. & St. Thos.
Dodwell, P. Rashleigh, Univ. Coll.
Eaves, W. Vaughan, Univ. Coll.
Farrington, John, Manchester.
Fazan, C. Herbert, Middlesex.
Fitz-Gerald, E. D., St. Barthol.'s.
Forward, F. E., St. Thomas's.
Foster, Alfred, St. Mary's.
Folker, H. H., Charing-cross.
Frossard, Emilien E., King's Coll.
Gravely, Ronald T., St. Mary's.
Griffith, John, St. Mary's.
Habbijam, E. T., Charing-cross.
Hale, Edward, Liverpool.
Hall, Walter, St. Bartholomew's.
Hamilton, H., Univ. Coll. and Bristol.
*Harrison, J. H. H., Univ. College.
Haslett, William John, London.
*Heberden, W. S., St. George's.
Henniker, J. G., St. George's.
Hicks, Edward James, London.
Hill, L. E., University College.
Hinds, T. W., University College.
Hitchon, H. H. I., Manchester.
*Hodgson, G. G., Univ. College.
*Holmes, J. W., Charing-cross and Sheffield.
*Holman, Henry James, Guy's.
Horden, H. H., Univ. College.
Hore, E. W., University College.
Hume, F. N., St. Thomas's.
Hutchinson, R. J., London.
Jackson, B. F. F., Charing-cross.
Jacobsen, G. O., St. Barthol.'s.
Jessop, J. W., St. Bartholomew's.
Johnson, H. P., St. George's.
Johnstone, J. L., Manchester.
Jones, A. W., Oxford and St. Thomas's.
Jordan, Henry Martyn, Guy's.
Kent, C. A., University College.
*Kent, Robert T., Edin. and Mid.
Kerr, George D., St. Thomas's.
Lambert, T. W., St. Thomas's.
*Lander, Francis Joseph, London.
Lange, André P., King's College.
*Lea, Arnold W. W., Manchester.
Lemon, Edward H., St. Bart.'s.
*Le Riche, P. J., University Coll.
Lloyd, John Wesley, Liverpool.
Lodwidge, W. C., St. Mary's.
Long, Edward C., Middlesex.
Mack, Cyril Gordon, St. Mary's.
*Molyneux, Edward, Liverpool.
Morgan, S. Wolferstan, Bristol.
Munday, R. Cleveland, St. Bart.'s.
*Murray, George, St. Mary's.
Oakeshott, W. Field, St. Bart.'s.
Offord, James Albert, London.
Oldham, George F., London.
Osburn, Harold B., St. Thomas's.
Parham, H. C. H., Charing-cross.
Paton, Edward Percy, St. Bart.'s.
Pearce, Frederick William, Guy's.
*Phillips, E. J. M., Liverpool and St. Thomas's.
*Ramsden, Herbert, Manchester.
Robinson, E. H., Manchester.
*Russell, W. A., Charing-cross.
Saul, Victor Salmon, London.
Sellers, Arthur Edward, Leeds.
Sharpin, A. L., St. Bartholomew's.
*Sheldon, Robert G., Liverpool.
Smith, R. A., University College.
Spratly, E. R. Woody, Liverpool.
Stocken, L. M., University College.
*Stephen, G. Caldwell, Montreal.
Stocker, W. Woodley, St. Mary's.
Swallow, Allan Jas., St. Thomas's and Durham.
Swift, Sidney Sampson, Liverpool.
Sykes, John Herbert, Manchester.
Vise, Arthur Blithe, Westminster.
Walker, G., St. Bartholomew's.
Wallace, Richard Teale, Guy's.
*Ware, E. Edwin, St. Thomas's.
*Weld, O., Toronto and Middlesex.
Wickham, G. Hy., St. Thomas's.
Wilkinson, Jas. Howard, London.
Worboys, T. S., St. Bartholomew's.
*Yeld, Walter Harry, Manchester.

* Candidates who have not presented themselves under the regulations of the Examining Board.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen having passed the necessary Examinations of the Board, received the diploma in Public Health at a meeting of the Royal College of Physicians on the 25th inst.:—

Bevan, Richard, L.R.C.P., M.R.C.S., Guy's Hospital.
Bond, Frederick Fielding, M.D. Edin., Edinburgh.
Bulstrode, Herbert Timbrell, M.D. Camb., L.R.C.P., M.R.C.S., St. Thomas's Hospital.
Copeman, S. A. M., M.B. Camb., L.R.C.P., M.R.C.S., St. Thomas's Hospital.
Hope, George, L.R.C.P., M.R.C.S., St. Thomas's Hospital.
James, A. Wm., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital.
Lawless, Edmund James, L.R.C.P. Edin., London Hospital.
Manley, J. H. H., M.B. Camb., Guy's Hospital.
Muspratt, C. D., M.B. Lond., F.R.C.S., Guy's Hospital.
Scatliffe, A. W., L.R.C.S. Edin., St. George's and London Hospitals.
Southcombe, A. G., L.R.C.P., M.R.C.S., St. Bartholomew's Hosp.
Wheaton, Samuel W., M.D. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital.
Yarrow, Eugene, L.R.C.P., M.R.C.S., St. Bartholomew's Hosp.

COLLEGE OF PHYSICIANS IN IRELAND.—At the July Examinations the following obtained the Licences in Medicine and Midwifery of the College:—

Medicine.—Frank Charles Butt, William Jenkinson Corrigan, Henry Cooke Drury, John Hickling Gwynne, Francis Johnson, John Keys, John James Langston, Joseph O'Connor, Robert Crout Richards, Patrick Stephenson.

Midwifery.—F. Charles Butt, Wm. Jenkinson Corrigan, John Hickling Gwynne, John Keys, John James Langston, Robt. Crout Richards, Patrick Stephenson.

The undernamed were admitted Members:—

Joseph Francis O'Carroll; Alfred Vavasour Lane, Surgeon Army Medical Staff.

ROYAL UNIVERSITY OF IRELAND.—The following gentlemen have obtained the diploma in Sanitary Science of this University:—

John C. Deacon. | Robert L. Heard.

CONJOINT SCHEME OF THE COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—The following gentlemen have passed the Second Professional Examination:—

P. Barragry, H. K. Bentley, T. F. Brophy, M. S. Byrne, A. A. Carbery, F. W. Condon, R. P. Connell, V. Cooke, P. J. Cullen, E. W. Dickson, F. F. Dillon, H. Dowling, J. H. Elmes, J. H. Farmer, M. Ferguson, D. H. Foley, E. F. Frazer, P. Garland, W. Hall, W. C. Hamilton, H. Jones, W. J. Keane, W. H. Langley, P. J. Liston, E. W. Lynch, H. McCormick, F. A. Madden, R. M. Madden, J. M. Mangan, A. R.

Moore, R. Moynahan, T. E. Myler, J. O'Donoghue, J. O'Dwyer, J. S. Proctor, P. J. Quinlan, R. W. Roe, W. Russell, J. P. Sexton, F. P. Smith, Temple Smyth, F. Stoker, A. P. Swanson, A. W. Tabuteau, H. Tweedy, S. W. Wilson, T. F. Wyse, W. Zimmer, D. A. McCurdy.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentlemen have been admitted Fellows:—

T. G. Bolster, Surgeon-Major Medical Staff; John Holmes, of Limerick; and Graves Stoker.

At the Preliminary Examination held on July 17th, the the following candidates were granted certificates:—

First Class.—M. Betty, C. Browning, C. S. Cahill, D. J. Carroll, A, Chadwick, S. M. Dooley, H. Eardley, J. W. Frazer, G. L. Freeman. P. Good, J. Gorman, C. P. Hannan, L. W. Harvey, A. J. Kearney, P. Lyons, E. P. Magee, J. S. Maher, H. F. Martyn, H. H. Moffat, D. Morrissy, J. Murphy, J. J. A. Sherry, S. Watson, M. Esmond White, and W. A. Woodride.

Second Class.—J. Black, A. W. N. Bowen, M. Breen, J. Campbell, P. P. Casey, T. V. Conway, W. S. Crosthwaite, T. E. Dobbs, S. C. Elgee, B. F. Eustace, F. M. Farmer, R. T. Fox, J. Graham, F. Hamilton, R. Hassard, R. J. Harvey, H. S. Henderson, R. Jennings, C. Kapp, J. C. Lloyd, P. J. MacHale, D. Molyneaux, J. J. Morrissey, A. Odbert L. O'Donnell, A. N. O'Neale, F. T. W. Trench O'Rorke, M. P. O'Shaughnessy, C. N. O'Sullivan, F. O'Sullivan, G. E. Palmer, T. Phelan, W. H. Pidgeon, D. C. S. Potterton, E. Pyne, J. M. Quirke, R. E. Smith, A. F. Studdert, T. F. Smith, and W. T. Wood.

Unclassed.—R. C. Boland, T. Considine, J. W. Jenkins, E. R. Kellett, T. Lauder, F. Little, Miss H. F. M'Card, R. Murphy, J. Nolan, D. A. O'Connor, C. J. Powell, G. G. Roe, A. O. Slocock, G. R. Stritch, J. F. Sutcliffe, and F. W. Woods.

Additional Certificates in Physics.—C. Browning, A. Chadwick, J. W. Frazer, G. L. Freeman, R. J. Harvey, H. H. Moffat, G. E. Palmer, D. C. S. Potterton, A. F. Studdert, J. F. Sutcliffe, and S. Watson.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates, having passed the qualifying examination in Medicine, Surgery, and Midwifery, have received certificates entitling them to practise in the same, and were admitted Licentiates of the Society on the 12th inst.:—

Loveday, Ernest, St. Bartholomew's Hospital.
Seccombe, Samuel Herbert, Guy's Hospital.

Passed on the 17th inst.:—

Barrs, John Harry, St. Thomas's Hospital.
Clarke, Joseph John, Queen's College, Cork.
Costine, William Courter, Royal Infirmary, Liverpool.
Ellaby, Charlotte Louisa, M.D. Paris, Paris.
Knight, Mary Adela M'Culloch, Royal Free Hospital.
Porter, Frederick Joseph Wm., London Hospital.
Verano, Louis Lawrence, St. Bartholomew's Hospital.

Passed on the 18th inst.:—

Appleyard, Walter Rooke, University College, Liverpool.
Hurst, Walter, Owens College, Manchester.
Wallington, Wm. T., L.S.A., Charing-cross Hospital.
Winter, George Mitchell, St. Mary's Hospital.

THE NEW HOSPITAL AT HARROGATE.—Prince Albert Victor of Wales performed on the 18th inst. the opening ceremony of the Bath Hospital and Convalescent Home at Harrogate, which has been erected at a cost of £32,000. The building has been planned as a home rather than an ordinary hospital. The best modern sanitary appliances have been adopted. The accommodation is ample for 150 inmates in all. The Convalescent Home is constructed so as to be readily extended if required.

ST. BARTHOLOMEW'S HOSPITAL. — The annual "Stewards' Feast" was given at the hospital on Wednesday evening. The Prince of Wales, as President, occupied the chair. A large and distinguished company were present. After the usual loyal toasts, the chief toast of the evening, "Prosperity to St. Bartholomew's Hospital," was proposed by His Royal Highness, who entered into considerable detail on the progress which the institution had made during the past few years, and the claims it had upon public support. Sir Sydney Waterlow (the Treasurer) responded. Other toasts followed, and a pleasant evening was brought to a close.

THE SAMARITAN FREE HOSPITAL FOR WOMEN, MARYLEBONE-ROAD.—The Prince of Wales, who was accompanied by the Princess of Wales and two of their daughters, laid on Wednesday the memorial stone of this new hospital. The Prince, in the course of his reply to the address to him read by Lord Selborne, remarked that during the past thirty-one years the hospital had existed, 1146 women had been cured of dangerous diseases. The hospital, when completed, will provide accommodation for 100 patients. The Prince having laid the stone, the Princess of Wales received purses of money. The amount thus collected was £1208 2*s.* 6*d.*

ROYAL COMMISSION ON VACCINATION.—The Royal Commission on Vaccination held a meeting on July 24th. There were present:—Lord Herschell (chairman), Sir James Paget, Sir Charles Dalrymple, M.P., Sir W. Guyer Hunter, M.P., Sir Edwin Henry Galsworthy, Mr. W. Scovell Savory, Mr. Charles Bradlaugh, M.P., Dr. John Syer Bristowe, Dr. W. Job Collins, Mr. J. Stratford Dugdale, Q.C., M.P., Professor Michael Foster, M.D., Mr. Jonathan Hutchinson, Mr. J. Allanson Picton, M.P., Mr. Samuel Whitbread, M.P., Mr. F. Meadows White, Q.C., and Mr. Bret Ince, secretary. Dr. R. Thorne Thorne, Assistant Medical Officer to the Local Government Board, was further examined.

THE PASTEUR INSTITUTE.—Towards the Lord Mayor's Fund which is being raised in connexion with M. Pasteur's Institute in Paris the Earl of Rosebery has given £100; the Merchant Taylors' Company, £31 10*s.*; Mr. Alderman Evans, £21; Dr. Hugo Müller, F.R.S., £10; Sir Prescott Hewett, F.R.S., £10; Dr. Pye-Smith, F.R.S., £10 10*s.*; Sir Frederick Bramwell, F.R.S., £5 5*s.*; Mr. Lennox Browne, £5.; Mrs. Edmund Potter, £10; Sir Henry Roscoe, M.P., £10; and Mr. George Matthey, £21. There are several English patients now undergoing the course of treatment for the prevention of hydrophobia at the institute in Paris, including one sent over by the Lord Mayor last week.

OPEN SPACES.—The Lambeth vestry has resolved to contribute £20,000 towards the purchase of Brockwell Park as an open space for South London, on the condition that the scheme for the purchase of Raleigh Park is abandoned.—Sir Edward C. Guinness, Bart., has intimated to the trustees his intention of increasing his original donation of £9000 to £14,000 for the erection of a winter garden for the inhabitants of East London.—Lady George Hamilton, on the 17th inst., formally opened the Acton public park and recreation-ground. It comprises eighteen acres of land, and has been purchased by the local board for £18,000, towards which the Goldsmiths' Company (who were part owners of the ground) have contributed £5000.

ST. ANDREWS GRADUATES' ASSOCIATION. — The annual meeting of this Association was held on Tuesday, July 23rd, at 11, Chandos-street, Cavendish-square, at 5 P.M., the President, Dr. B. W. Richardson, in the chair. The account, which shows a balance of £27 13*s.* 9*d.* in favour of the Society, was audited and received, and the Council's report for the past session was adopted and ordered to be printed. Dr. Richardson, Dr. Paul, and James M. Menzies, M.A., were re-elected to the offices of president, hon. treasurer, and hon. secretary respectively. The members of Council for the current session were elected, and, after a committee had been appointed to make arrangements for the delivery of two or more academic lectures during the session, the proceedings were brought to a close.

DEATH WHILST UNDER CHLOROFORM. — At an inquest held at Whitfield, on the 8th instant, by the East Kent coroner, on the body of Mr. John Sneller, a retired farmer, Dr. C. E. Tanner deposed that the deceased expired whilst undergoing an operation to remove a stone in the bladder, in the presence of Mr. John Langton, Mr. Macready, of London, and Mr. Long, of Dover. Witness administered chloroform, and Mr. Langton performed the operation, during which witness observed a change in the pulse. He called Mr. Langton's attention to it, who withdrew his instrument, and they began artificial respiration, and continued it for upwards of half an hour, but without avail. He was about twenty minutes under chloroform.

MEDICO-PSYCHOLOGICAL ASSOCIATION. — The following gentlemen passed the examination for the certificate in Psychological Medicine, granted by the above Association held in the Edinburgh Royal Asylum:—Messrs. J. B. Bird, A. W. Carter, R. J. Drummond, M.B., C.M., H. M. Eames, R. A. Fraser, M.B., C.M., G. Fitzgerald, G. Hennan, M. L. Hewat, J. Monteith, M.B., C.M., R. Renton, F. M. Ritchie, B.Sc., J. D. Stanley, M.B., C.M., W. Day Stewart, M.D., and R. R. H. Whitwell, M.B., B.Sc. The examination was conducted by Dr. Yellowlees (Glasgow Royal Asylum), with Dr. Clouston (Edinburgh Royal Asylum) as assessor. — Dr. Rorie (Dundee Royal Asylum) and Dr. Reid (Aberdeen Royal Asylum) report that the following gentlemen have passed the examination for the certificate in Psychological Medicine granted by the same Association:—Messrs. Wm. Bulloch, Wm. Davidson, James Rannie, and James Wilson. The examination was held in the Aberdeen Royal Asylum on the 19th inst.

MEDICAL NOTES IN PARLIAMENT.

Overtime Work of Railway Servants.

In the House of Lords on Friday, the 19th inst., Lord de la Warr called attention to the recent return of overwork of railway servants. He analysed the document to show that in numerous instances signalmen and engine-drivers were at work from fifteen to eighteen hours out of the twenty-four, and urged that when a man had been employed for twelve consecutive hours it was almost impossible for him, either mentally or physically, to continue to discharge his responsible duties in the manner required of him. He had been assured on good authority that the great stretch of mental attention to which many railway servants were subjected produced a listlessness which increased the risk of accidents, and brought on premature infirmity. He moved for the official report of the recent railway accident in the north of Ireland. Lord Stalbridge maintained that the average time worked by men on railways was by no means excessive.—Lord Balfour promised to produce the official report of the accident in Ireland when it was prepared, and the motion of Lord de la Warr was thereupon withdrawn.

Cruelty to Children (Prevention) Bill.

On Monday, the 22nd, Lord Herschell moved the second reading of this Bill. As to the provision in the Bill prohibiting the employment of children under ten years at theatres and other places of amusement, he was of opinion that no case had been made out by those who wanted to expunge that sub-section, and he asked their lordships to support the decision come to by the House of Commons.—Lord Dunraven gave formal notice of his intention at the proper time to move the omission of the sub-section in question.—The Archbishop of Canterbury and Lord Meath supported the provision prohibiting the employment of children under ten years of age on the grounds of education and health.—The Bill was read a second time.

Otford and Dunton Green Sewerage.

In the House of Commons, on Friday, the 19th inst., Mr. Ritchie, replying to Mr. Bradlaugh, said that the Local Government Board had sanctioned loans for works of water-supply and sewerage for the parish of Otford, which included the villages of Otford and Dunton Green. The medical officer of health had testified that the existing water-supply at Dunton Green was bad, and it further appeared that some, at least, of the houses at Otford were badly supplied. There was also evidence that sewerage was needed, and it was pointed out that if a system of earth-closets were adopted the slop-water would still have to be dealt with. He (Mr. Ritchie) had no information to show that earth-closets had been generally provided in the places in question.

Roburite.

Mr. J. S. Balfour asked a question as to the injurious effects to the health of miners of the use of roburite.—Mr. Matthews, in reply, stated that, according to his information, roburite was in growing use in Lancashire collieries, and was a useful explosive, and practically safe for use in fiery mines. An inquiry had been held by a committee of experts, and the conclusion arrived at was that, proper care being exercised, the use of roburite would not add to the unhealthy conditions under which the miner works. He did not think that any further inquiry was necessary, at any rate at present.

Prison Cells and Ophthalmia.

Mr. A. J. Balfour, replying to Mr. MacNeill, stated that the cells of Londonderry Prison are whitened, but the General Prisons Board were not aware of any prisoner being thereby exposed to any injurious glare. Had any necessity existed for altering existing arrangements, the prison surgeon, in the ordinary discharge of his duty, would have called attention to the matter. The Board had also reported that there was no medical evidence that Mr. Blunt's sight was injured either in Galway or Kilmainham Prisons. As a matter of fact, the cells in Galway Prison have been for a long time coloured yellow. Mr. Cox, M.P., had been suffering from ophthalmia, and had consequently been removed to the prison hospital, but that did not appear to have been produced by the glare of the cell walls, nor was his sight, so far as the Board was aware, seriously and permanently injured.

Muzzling of Dogs.

On Monday, the 22nd, Mr. W. H. Smith, in reply to several questions, stated that it was not contemplated at present to issue a general order for the whole country for the muzzling of dogs.

Grants to the University Colleges.

Mr. Jackson, in reply to Mr. Mundella, stated that the papers bearing upon the scheme for the allocation of annual grants to the University Colleges were presented on Friday (the 19th), and he hoped they would be in the hands of members immediately.

Local Government (Scotland) Bill.

On Monday, the 22nd, this Bill, as amended, was considered. On Clause 17, which deals with the transfer of the powers of parochial boards under the Public Health Act, and gives a right of appeal from a district committee to the County Councils in certain cases, an amendment by the Lord Advocate was inserted enacting that the power of appeal should not apply to any order for the removal of a nuisance. An amendment by Mr. Caldwell was agreed to, enacting that the medical officer or the sanitary inspector of the county or district may appeal to the County Council from any order made or refusal to make any order by a district committee, and the County Council may review, confirm, vary, alter, or rescind such determination or order, or may make an order under the Public Health Acts.—Mr. Caldwell moved an amendment in Clause 17 to provide that the medical officer or sanitary inspector should hold office at the pleasure of the County Council.—The Lord Advocate could not accept that amendment, which raised a point of serious importance. They were dealing with the existing machinery of the public health system, and he held that it was of vital importance that there should be that amount of independence in the medical officers and sanitary inspectors as would give them the consciousness that unpopular and invidious as their duties must often be they would not be subject to dismissal merely on the ground of the unpopularity of their proceedings.—Dr. Farquharson was glad that the Lord Advocate was going to stand firm on that point. It was of paramount importance that those medical officers should be so entirely independent of local feeling and local prejudice as to be able to do their duty without any fear of possible danger to themselves from faithfully performing it. The amendment was negatived.

On the following day (Tuesday, the 23rd), on Clause 43, Dr. Clark moved the insertion of words providing that no person shall hereafter be appointed the medical officer of any county or district unless he "is a registered medical practitioner." The wording of the clause as it stood would exclude a large number of men who were qualified for the post of medical officer. The amendment was agreed to. Dr. Farquharson moved to insert the following subsection:—"Every medical officer and every sanitary inspector appointed under this Act or under the Public Health Acts shall be removable from office only with the sanction of the board of supervision." Mr. Esslemont opposed the amendment, and Dr. Cameron and Dr. Clark supported it in principle. The Lord Advocate hoped the hon. member for West Aberdeen would adhere to his amendment as it stood, and that he would not desire the sanitary inspectors to be excluded from protection. They would require protection as much as the medical practitioners. The amendment was carried by 229, against 126.

The Bill was read a third time on the following day (Wednesday, the 24th).

Universities (Scotland) Bill.

On Wednesday, the 24th, this Bill as amended was considered. On Clause 10, which relates to the composition of the Commission, the name of Sir William Thomson was added. The names of Mr. Walter Graham Blackie, Mr. S. H. Butcher, Dr. Patrick Heron Watson, and Mr. Fuller were also, after some discussion, agreed to; whilst that of Mr. Alexander Bain was rejected by 179, against 143. A proposal by Dr. Farquharson to add the name of Mr. William Bruce, A.M., M.D., the elected representative of Scotland on the General Medical Council, was negatived. An amendment by Mr. Wallace, fixing the maximum fee at three guineas, was rejected by 199, against 114.

The Commission on Vaccination.

In the House of Commons on Thursday night, Mr. John Ellis asked the President of the Local Government Board whether, inasmuch as the subject of notification of infectious diseases is embraced in the inquiry referred to the Commission on Vaccination, he proposed to press forward the Bill for the Notification of Infectious Diseases now before the House.—In reply, Mr. Ritchie said: I cannot concur in the suggestion that the fact that one of the questions referred to the Royal Commission on Vaccination—i.e., "What means other than vaccination can be used for diminishing the prevalence of small-pox"—has any practical bearing on the question of the notification of infectious diseases, and it is my intention to press forward the Bill on that subject now before the House.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

HART, F. J. LORIMER, M.B.Ed., C.M., L.M., has been appointed Medical Officer and Public Vaccinator to the Wansford District of the Stamford Union, and Surgeon to the Oddfellows and other Friendly Societies.

HOSEGOOD, SAMUEL P., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer of the Infirmary, Hamlet of Mile-end Old Town.

JEROME, ERNEST J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of the Camelford District and Workhouse Infirmary, Camelford Union.

LYTLE, J., M.D., M.Ch. Qu. Univ. Irel., has been appointed Surgeon to the Foresters' Medical Aid Association, Shrewsbury.

MACDONALD, JAMES A., M.D., M.S., R.U. Irel., has been appointed Medical Officer of the Taunton St. Mary District, Taunton Union.

MACGILVRAY, WILLIAM J. HOOKER, L.R.C.P., L.R.C.S., L.M. Edin., &c., has been appointed Medical Officer of the Royal Humane Society for Kensal-green, W.

ODELL, THOS., M.R.C.S., L.S.A., has been reappointed Medical Officer of the Third District, Hertford Union.

PARSONS, F. J. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health, Bridgwater Union and Rural Districts.

REID, GEO., M.D., M.B., C.M. Aberd., has been (temporarily) appointed Medical Officer of Health of the County of Staffordshire.

ROBERTS, REGINALD, M.R.C.S., L.S.A., has been appointed Assistant House Surgeon to the Royal South Hants Infirmary, vice Sydney Herbert, resigned.

SHAW, L. E., M.D. Lond., M.B., M.R.C.P., M.R.C.S., has been appointed Curator of the Museum, Guy's Hospital.

UNDERWOOD, ARTHUR SWANE, M.R.C.S., L.D.S., has been appointed to the Chair of Dental Surgery at King's College, and Dental Surgeon to King's College Hospital, vice Ashley Gibbings, resigned.

WARD, G. S., L.R.C.P., L.M., L.R.C.S. Edin., has been reappointed Medical Officer of the Fifth District, Hertford Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BIRMINGHAM WORKHOUSE INFIRMARY. — Senior Resident Medical Officer. Salary £150 per annum, with board, lodging, washing, and attendance.

BOROUGH OF NOTTINGHAM.—Medical Officer of Health.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Assistant Physician.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House Surgeon.

HOSPITAL FOR WOMEN, Soho-square, London.—House Physician. Salary £75 per annum, with board, &c.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Registrar and Chloroformist. Salary 50 guineas per annum, non-resident.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—House Surgeon, and to undertake the Secretary's duties. Salary £130 per annum, with detached house, furnished. Coals, gas, and water provided.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser. Salary £70 per annum, with board and lodging.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Junior House Surgeon. Salary £50 per annum, with board and residence.

SOMERSET AND BATH LUNATIC ASYLUM.—Junior Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

TOWCESTER UNION, Towcester.—Medical Officer of the Workhouse and the Towcester District of the Union. Salary £110 per annum, exclusive of Midwifery, surgical fees, vaccination fees, and drugs.

TOWN OF HOVE, Sussex.—Medical Officer of Health for the Town of Hove. Salary £100 per annum.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Dental Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BLOUNT.—On July 20th, at Alexandra-road, Hornsey, the wife of Arthur Blount Blount, M.R.C.S., L.R.C.P., L.S.A., of a son.

CHURCHOUSE.—On July 15th, at Long Buckby, Rugby, the wife of W. J. Franklin Churchouse, L.R.C.P., &c., of a daughter.

ELLIOTT.—On July 16th, at Andover, the wife of Dr. F. Elliott, of a son

LANE.—On July 23rd, at St. Thomas's-st., S.E., the wife of W. Arbuthnot Lane, M.S., of a daughter.

MILLER.—On July 17th, at Horwoods, Basingstoke, the wife of Frederic D. Miller, L.R.C.P. Lond., &c., of a son.

STEWART.—On July 19th, at 98, Redcliffe-gardens, South Kensington, the wife of Dr. Howard D. Stewart, of a daughter.

THORN.—On July 17th, at Southend, the wife of Harry Thorn, L.D.S., Dental Surgeon, Gloucester-road, South Kensington, S.W., of twins, son and daughter.

WILKINSON.—On July 21st, at Elwick-road, Ashford, Kent, the wife of J. Cooper Wilkinson, L.R.C.P. Lond., M.R.C.S., of a daughter.

WORNUM.—On July 19th, at College-terrace, Belsize-park, Hampstead, the wife of G. Porter Wornum, M.R.C.S. Eng., of a daughter.

MARRIAGES.

BARRINGTON—SWAINE.—On July 18th, at St. Nicholas', Guildford, Harry E. W. Barrington, Army Medical Staff, to Alice Muriel, youngest daughter of the late W. E. Swaine, of Brabaeuf, Guildford.

CORKHILL—COLLINGWOOD.—At Christ-Church, Derby, Joseph G. G. Corkhill, M.B., eldest son of Joseph Corkhill, of Bootle, to Amy, second daughter of the late William Tidd Collingwood, of South Hackney, London.

FERGUSON—HUNTER.—On July 6th, at St. Andrew's Church, Cutch Bhuj, by the Rev. W. Scott, B.A., Surgeon-Major J. E. Ferguson, M.B., Bombay Medical Service, eldest son of the late John Ferguson, M.D., of Nigg, Kincardineshire, to Grace Alexa, eldest daughter of Lieut.-Col. F. M. Hunter, C.B., C.S.I., Political Agent, Cutch.

FLUX—MANN.—On July 16th, at St. James', West Hampstead, by the Right Rev. the Bishop of Colchester, D.D., assisted by the Rev. A. W. Flux, M.A., brother of the bridegroom, George Belben Flux, M.R.C.S. Eng., L.R.C.P. Lond., M.D. (Brux.), &c., of Highworth, Wilts, to Florence, daughter of the late G. Mann, of Hamilton-terrace, N.W.

KING—OULD.—On July 18th, at St. Oswald's Church, Chester, Henry William King, M.D., M.R.C.S., of Chester, eldest son of W. N. King, of Great Barton, Suffolk, to Annie Sarah, daughter of the late Rev. Fielding Ould, Rector of Tattenhall, Cheshire.

LERMITTE—SCOTT.—On May 28th, at St. Andrew's Church, Walkerville, South Australia, Charles Gower Lermitte, M.R.C.S. Eng., second son of the late Frederick A. Lermitte, Windsor, Ontario, Canada, to Augusta Katherine Winifred, youngest daughter of E. B. Scott, of Yatala, South Australia.

WICKHAM—WADHAM.—On July 17th, at St. John's, Duncan-terrace, N., O. A. Wickham, M.R.C.S., L.R.C.P. Lond., of Arundel-square, N., to Lydia, daughter of F. Wadham, and adopted daughter and niece of the late David Howell, Solicitor.

DEATHS.

CURREY.—On July 15th, in London, J. Edmond Currey, M.D., of The Villa, Lismore, Ireland, aged 70.

HUTCHINSON.—On July 19th, at High-street, Bridlington, Christopher Francis Hutchinson, M.D., aged 81.

KEANE.—On July 11th, at Castle Connell, Limerick, Marcus William Allatson Keane, L.R.C.S., L.R.C.P. Edin., youngest son of the late Rev. W. Keane, Rector of Whitby, Yorks., aged 28.

STEELE.—On July 18th, at Somers-road, Reigate, John Sisson Steele. M.R.C.S., L.S.A., in his 80th year.

WEBBER.—On July 20th, at Abbey-road, St. John's-wood, after many years' suffering, Charles Samuel Webber, F.R.C.S., in his 80th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 25th, 1889.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 19	29·95	N.E.	59	54	114	73	53	..	Hazy
,, 20	29·83	S.W.	63	55	88	67	55	..	Raining
,, 21	29·70	W.	64	59	111	70	59	·02	Cloudy
,, 22	29·88	N.W.	59	53	111	70	52	·67	Cloudy
,, 23	29·81	W.	60	55	101	66	53	..	Overcast
,, 24	29·82	W.	59	55	104	68	51	·39	Cloudy
,, 25	29·60	W.	61	57	89	64	57	·07	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

THE QUESTION OF MEDICAL AID IN BARNSLEY.

THE *Sheffield Telegraph* intimates that there has been much discussion in Barnsley over the proposal to have an association whose members shall be attended by a medical man to be appointed, and to provide surgeries at various convenient points. The friendly and trade societies have been asked to join; the subscription, "when fairly reckoned up," to be 3*d.* to 4*d.* per week per family, it being said that similar associations flourish in Leeds, Bradford, and other towns. By all means let the question be discussed in connexion with other schemes, and let the working classes of Barnsley, with its 30,000 inhabitants, consider whether it is better to be doctored wholesale by one man, without the alternative of choice, or to have some individual attention from a selected practitioner. There is nothing in which preference and selection go for so much as in the question of medical attendance, and to be doctored in a crowd by a practitioner chosen by a crowd is not the arrangement that is likely to answer best. The question of 10*s.* or 20*s.* a year, more or less, for medical expenses is not so important to a respectable working man as the freest range of choice for a medical man whom his wife and children prefer

G. W. H.—Any registered medical practitioner can treat the case. We do not give advice.

Cyclops.—1. The question of "right" is one for the company alone.—2. Yes.

"OPHTHALMIA NEONATORUM."

To the Editors of THE LANCET.

SIRS,—In your issue of to-day's date, under the above heading, I see an annotation on the Report of the Royal Commission on the Blind. It is therein suggested that a paper should be given to the parents or relatives of the child at the time of the registration of the birth, and that this paper should contain a short account of the disease, indicating its gravity, &c. If any material good is to be done by advice to parents in respect of this affection, it is essential that it should be given at the onset, and not after it has been established an indefinite time. Registration of births is often delayed two or three weeks after the event, and eyes may be irreparably damaged before the notice of the parents is directed to the dangerous character of the disease. Would it not be more effectual to supply the paper in question to parents at the time of the confinement through the medium of the medical attendant? I am sure no reasonable practitioner would refuse to comply with this request of the Commissioners were these gentlemen to make it. The proportion of parturient women who call in the midwife must surely be small as compared with those who seek the general practitioner's assistance. I am, Sirs, yours truly,

Seymour-street, W., July 20th, 1889. A. ST. CLAIR BUXTON.

THE RABIES ORDER.

ACCORDING to the *Law Journal*, the Rabies (City and Metropolitan Police Districts) Order of 1889 is a local and temporary order, based on the Rabies Order, 1887, which is a permanent and general order. Rule 5, which provides that the local authority shall cause all dogs affected with or suspected of rabies, or having been bitten by a dog so affected or suspected, to be forthwith slaughtered, is made under Section 6 of the Contagious Diseases Act, 1886, which provides that the Privy Council may authorise the slaughter of animals by local authorities, "either generally or in particular instances, and in all or any of such cases the payment of compensation for the same by local authorities out of the local rate." The present order is made "generally," and, *reddendo singula singulis*, the section must be read as requiring that in all such cases—that is, where disease exists or is suspected—compensation must be ordered out of the local rate. If this is the true reading of th section, Rule 5 of the new order is beyond the powers of the section, as not containing one of the conditions essential to its exercise.

Student.—G. R. Cutter's book, published in New York, would probably answer the purpose of our correspondent.

THE "QUEEN'S JUBILEE" HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Referring to a letter which appeared in your last issue containing a statement by a Mr. C. S. Loch, who styles himself "Secretary of the Society for Organising Charitable Relief and Repressing Mendicity," I am requested to ask you to publish the following replies.

Mr. Loch says that on the Saturday preceding Hospital Sunday a collection was made on behalf of this hospital by persons carrying boxes in the streets. To this I reply that the Queen's Jubilee Hospital made no collection whatever on the Saturday preceding Hospital Sunday, and no collection boxes were used on its behalf on that day. He further says that boys collecting for this hospital on the Saturday preceding Hospital Sunday wore badges inscribed "Hospital Sunday Fund." I reply that never has anyone carrying a collection box in aid of this hospital worn a badge of any description. Your correspondent then suggests that by the alleged devices the public had been induced to mistake this collection for the one instituted by the Hospital Sunday Fund. To this I reply that, apart from the fact of there having been no collection on our part on that day, never has there been on our collection boxes any writing calculated to mislead the public, nor have we pretended in any of our collections that they have been in connexion with the Hospital Sunday or any other fund. As regards Mr. Loch's statements concerning the increase and status of special hospitals, they are obviously quite inapplicable to this institution, inasmuch as this is not a special, but a general hospital. I enclose our last annual report, by which you will see that we are treating over 400 cases weekly, and yet do not participate in either the Hospital Saturday or Sunday Funds.—I remain, Sirs, faithfully yours

(For the "Queen's Jubilee" Hospital),
July 22nd, 1889. GEO. A. BEVAN, Secretary.

"MEDICAL ADVICE FREE: MEDICINE 2D. PER BOTTLE!"

To the Editors of THE LANCET.

SIRS,—I must ask you, in deference to the widespread feeling in our neighbourhood, to publish the accompanying letter, to correct the erroneous impression which the letter you published in your last issue would probably create. The whole tone of the letter is quite beside the question. What we object to solely is not the formation of "non-pauperising" dispensaries, but the gross and shameless advertising by means of handbills, which are placed under every knocker and into every letter-box in the whole district. This we do object to. What can this be termed but touting? It is notorious amongst us, under this guise of charity (?), how this new-fangled system of dispensaries is carried on and made to pay. To call this charity is, as you remark, the greatest abuse of language, combined with the greatest stretch of imagination. In conclusion, I may just add that we are in process of sending up a petition to the Irish College of Physicians, signed by over forty medical men in the immediate neighbourhood, drawing their serious attention to the matter.—I am, Sirs, yours faithfully,

July 23rd, 1889. PRO BONO PUBLICO.

BABY-FARMING IN FRANCE.

M. LEDÉ recently placed before the French Academy some statistics as to baby-farming, which go far to account for the unsatisfactory decrease of the population of Paris. Of 5819 children born in the capital and farmed out when about a fortnight old in five different departments 2241 legitimate children were given into the charge of women who undertook to feed them on human milk. Of these exported infants 401 were taken back by their parents during the first year; of the 1840 remaining in the country 228 died. Then, again, 1487 legitimate children were farmed out to be brought up by the bottle; 297 went back to their parents after a few months; and of the remaining 1190 babies 525 died during the first year. The mortality among the illegitimate infants put out to nurse was even greater, being 35 per cent. among those fed on human milk, and nearly 40 per cent. among those brought up by the bottle.

An M.R.C.S. has not enclosed his card.

LUNACY LAW: SINGLE PATIENTS.

Larnaca.—1. The father's guardianship, and his power of transferring it, under the circumstances mentioned, would appear to cover the rightful requirements of the case. No definite age is given as protective against legal responsibility.—2 The following is the wording of Clause 33 (1) of the Lunacy Acts Amendment Bill, having reference to single patients:—

> "After the commencement of this Act, except in the case of persons who shall by the medical certificates accompanying the reception orders, be certified to be suffering from unsoundness of mind of a temporary character, or from decay of mind in old age, or to be desirous of voluntarily submitting to care and treatment, no order shall be made for the reception of a lunatic as a single patient in a house belonging to or kept by a medical practitioner, except by the Judge in Lunacy, who is hereby authorised to make the same, and every such order shall, subject to the General Orders in Lunacy for the time being in force, be obtained in the same manner and subject to the same conditions as an order made by a judge of county courts, magistrate, or justice upon petition under this Act. The provisions of the Lunacy Acts, and of this Act relating to single patients, and all other relevant provisions, shall apply to patients for whose reception an order is made by the Judge in Lunacy under this sub-section, and the person upon whose application the order is made shall, with reference to the lunatic to whom the order relates, have and be subject to the same authorities, powers, obligations, and liabilities, as if the order had been made by a judge of county courts, magistrate, or justice, upon the petition of the applicant."

Attempts are being made in committee to have the terms of the clause modified. In the present unsettled and shifting state of the details of the lunacy laws generally, we think the best and safest course is to refer cases of question and difficulty to the Commissioners in Lunacy.

"REJUVENESCENCE OF THE HAIR."

To the Editors of THE LANCET.

SIRS,—Seeing an account of the rejuvenescence of the hair described by Dr. O'Neill in your last issue, I thought it would be interesting to bring before your notice another case, which has happened lately in my practice—on Jan. 23rd last.

A patient of mine, J. M——, aged sixty-one, grey-headed and bald (I believe he lost his hair somewhat early), noticing a strong smell of gas in his drawing-room, proceeded to discover the cause with the aid of a lighted candle. He certainly found the leakage, at the same time causing an explosion, which set fire to the place, and blew off what hair he possessed, severely burning and blistering the scalp. He recovered from the shock in a few days, and when the burns had healed went about as usual, wearing a silk cap. I saw no more of my patient until last week, when he called to pay his half-yearly account and to show me his "new head of hair." It is somewhat of a dull brown colour, with a few white hairs amongst it. It has grown all over his head, so that he is no longer bald. He tells me he now has quite as much as he had when thirty years of age, and he quite considers his "restorer" a powerful rival to any advertised.—I am, Sirs, yours truly,

West Norwood, S.E., July 22nd, 1889. JOHN B. HARRIS, M.D.

THE JONES FUND.

THE following subscriptions have either been received or promised in response to the appeal made last week on behalf of Mr. Jones of Edmonton:—

A. Durham, Esq.	£2	2	0	E. Nettleship, Esq.	£1	1	0
Messrs. Jackson and Ward	2	2	0	Dr. W. M. Ord	1	1	0
S. Sibley, Esq.	2	2	0	Sir E. Saunders	1	1	0
Dr. J. O. Adams	1	1	0	Dr. Brodie Sewell	1	1	0
Dr. Bridgwater	1	1	0	T. Smith, Esq.	1	1	0
Dr. Bristowe	1	1	0	W. P. Warren, Esq.	1	1	0
Dr. Hare	1	1	0	Dr. Dickson	0	10	6
Dr. J. W. Hunt	1	1	0	Dr. A. T. Gibbings	0	10	6
Sir W. Mac Cormac	1	1	0	St. Clair Shadwell, Esq.	0	10	6
C. Macnamara, Esq.	1	1	0	E. English, Esq.	0	7	6

The total amount of Mr. Jones's legal expenses was about £60.

CHARITY VOTING REFORM.

To the Editors of THE LANCET.

SIRS,—The committee of this Association direct me to thank you for calling attention in your last issue to the evils of canvassing for the benefits of some of the principal London charities. The extracts from the letters of the candidates which I beg to enclose are conclusive as to the absolute necessity for abolishing the voting and canvassing system. Hardships are imposed upon the poor at the very time when, from a medical point of view, their difficulties and sufferings should be relieved, instead of being aggravated. The lists of subscribers to the voting charities, especially the Medical Benevolent College, contain the names of a large number of medical practitioners. To them I beg leave to appeal through the medium of your columns to use their best endeavours to bring about a different state of things by communicating their objections to the voting system to the committees of the various charities to which they subscribe.—Your faithful servant,

J. A. DOW, Secretary.

Charity Voting Reform Association, 30, Charing-cross, S.W.,
July 24th, 1889.

THE BRITISH NURSES' ASSOCIATION.

THE report of the recent meeting of the above-named Association at the Mansion House is in type, but, being of considerable length, is unavoidably crowded out of our present number.

E. W. (Lowfield).—No. The resignation of the one involves that of the other.

THE "EXCELSIOR" BED-LIFT.

To the Editors of THE LANCET.

SIRS,—As inventor and patentee of the "Excelsior" Bed-lift, may I be permitted to supplement Mr. Cowell's observations by saying that the lift is on view daily until 4 P.M. (Saturdays excepted) at the offices of the British Nurses' Association, 8, Oxford-circus-avenue (231, Oxford-street), where visitors will be afforded every facility for examining the appliance? I am, Sirs, faithfully yours,

Tulse-hill, S.W., July 20th, 1889. HELEN MONKHOUSE.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Bristowe, London; Mr. J. M. Menzies, London; Mr. Lloyd-Owen; Prof. Horne-Rosenberg, Venice; Mr. J. A. Dow, London; Mr. F. W. Jollye, Warminster; Dr. A. G. Miller, Edinburgh; Surgeon-General Johnston; Mr. A. Miles, Edinburgh; Sir J. Grant, Ottawa; Messrs. Maw and Son, London; Dr. F. T. Bond, Gloucester; Dr. T. H. Manley, New York; Mr. T. W. Thompson, London; Messrs. McEwan, Brown, and Wyatt, Boscombe; Mr. H. A. Jackson, Coventry; Mr. St. Clair Buxton, London; Mr. Davidson, Congleton; Mr. Weatherley, New Ferry; Mr. Siewers, London; Mr. E. H. Hare, London; Drs. Leslie Phillips and Bateman; Dr. Price, London; Mrs. Monkhouse, Tulse Hill; Mr. Condy, London; Dr. Spender, Bath; Messrs. Harrison and Branthwaite, Halesowen; Mr. Rivington, London; Dr. Masterman, Stourport; Mr. A. B. Macdowall, London; Mr. Addison, Glasgow; Mr. Praagh, London; Mr. Whitton, Towcester; Mr. Wood, Pontypool; Dr. White, London; Mr. Turner, Suffolk; Mr. Kinsey-Morgan, Bournemouth; Mr. Potter, Bradford; Mr. Bennett, Liverpool; Dr. T. Harris, Manchester; Mr. R. B. Brookes, Tottenham; Mr. Pugin Thornton, Canterbury; Mr. T. N. Thomas, Leicester; Messrs. Cook and Son, London; Dr. Steele, London; Mr. E. Clark; Mr. Howard Marsh, London; Mr. Field, London; Mr. Loch, London; Mr. Hogg, Leeds; Mr. Foulerton, Chatham; Mr. McAndrew, Dalkeith; Dr. J. B. Harris, Norwood; Mr. Kelynack, Manchester; Dr. C. S. Watson, London; Mr. Freeman, London; Mr. Schofield, Wisbech; Mr. R. R. Sleman, London; Mr. Woolley, Hove; Dr. C. W. Ward, Chicago; Dr. Macfarlane, London; A Subscriber, Chester-le-Street; Birmingham Infirmary, Birmingham; M., London; Lowfield; Fairplay; Nursing Record, London; Shenfield; Cyclops; Western General Dispensary, Marylebone; Alpha, Bangor; M.D., London.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Earle, Brighton; Mr. Davies, Wales; Mr. Brooks, Acton; Mr. Latham, Wakefield; Messrs. Maclehose, Glasgow; Mr. Banks, Southampton; Mr. Graham, Northampton; Mr. Crassweller, London; Mr. Lawson, London; Mr. Leigh, Liverpool; Mr. Allen, Grimsby; Mr. Williams, London; Mr. Williams, Wales; Mr. Forbes, Oldham; Mr. Wilson, Leeds; Dr. Muir, Monmouth; Mr. Taylor, Norwich; Mr. Driver, Chelmsford; Mr. Heywood, Manchester; Messrs. Richardson and Co., Leicester; Mr. Bastian; Mr. Millard, Reading; Mr. Shepherd, Lincoln; Mr. Vachell, Monmouth; Mr. Nicholls, Bury St. Edmunds; Mr. Ashwell, Dewsbury; Mr. Strudwick, London; B.A., London; Freemason, London; E. L., Bournemouth; Junior, Exeter; High Shot House, Twickenham; B.A., Strand; Surgeon, London; Lady Superintendent, Kent; S., Peckham; Medicus, Lochgoilhead; Zeta, London; P. M., London; C. A. S., London; C., London; Florence, Yorks; P. B. D.; Beta, Sussex; E. J. F., Canary; M.D., F.R.C.S., London; Secretary, Cambridge; Alpha, London; Z., London; The Hospital, Salford; W. L., London; X. Y., Greenwich; University College, London; F. P., Birkenhead; Dorset, London; Lux, Liverpool; Surgeon, Gloucester; Meredies, London; Delta, London; Beta, London; Oliver, London; H. H., London; A. L. C., Notts; North, London; Chemicus, Kidderminster; Reisender, London.

Derby and Chesterfield Reporter, Hertfordshire Mercury, Ashton-under-Lyne Reporter, Brecknock Beacon, Reading Mercury, Mining Journal, Newport Observer (R. I.), Weekly Free Press and Aberdeen Herald, North Star (Darlington), Surrey Advertiser, Western Times, Pendleton, Salford, and Broughton Reporter, Carlisle Journal, Glasgow Herald, &c., have been received.

Medical Diary for the ensuing Week.

Monday, July 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M. and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations P.M., and each day in the week at the same hour.

Tuesday, July 30.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.

Wednesday, July 31.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, August 1.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

Friday, August 2.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, August 3.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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